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Number 4

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DEVELOPMENT DIGEST

Volume III - Number 4

January 1966

A journal of
selected excerpts, summaries and
reprints of current materials on
economic and social development

Prepared by the NATIONAL PLANNING ASSOCIATION
William I. Jones, DIGEST Editor

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DEVELOPMENT DIGEST

Volume III - Number 4

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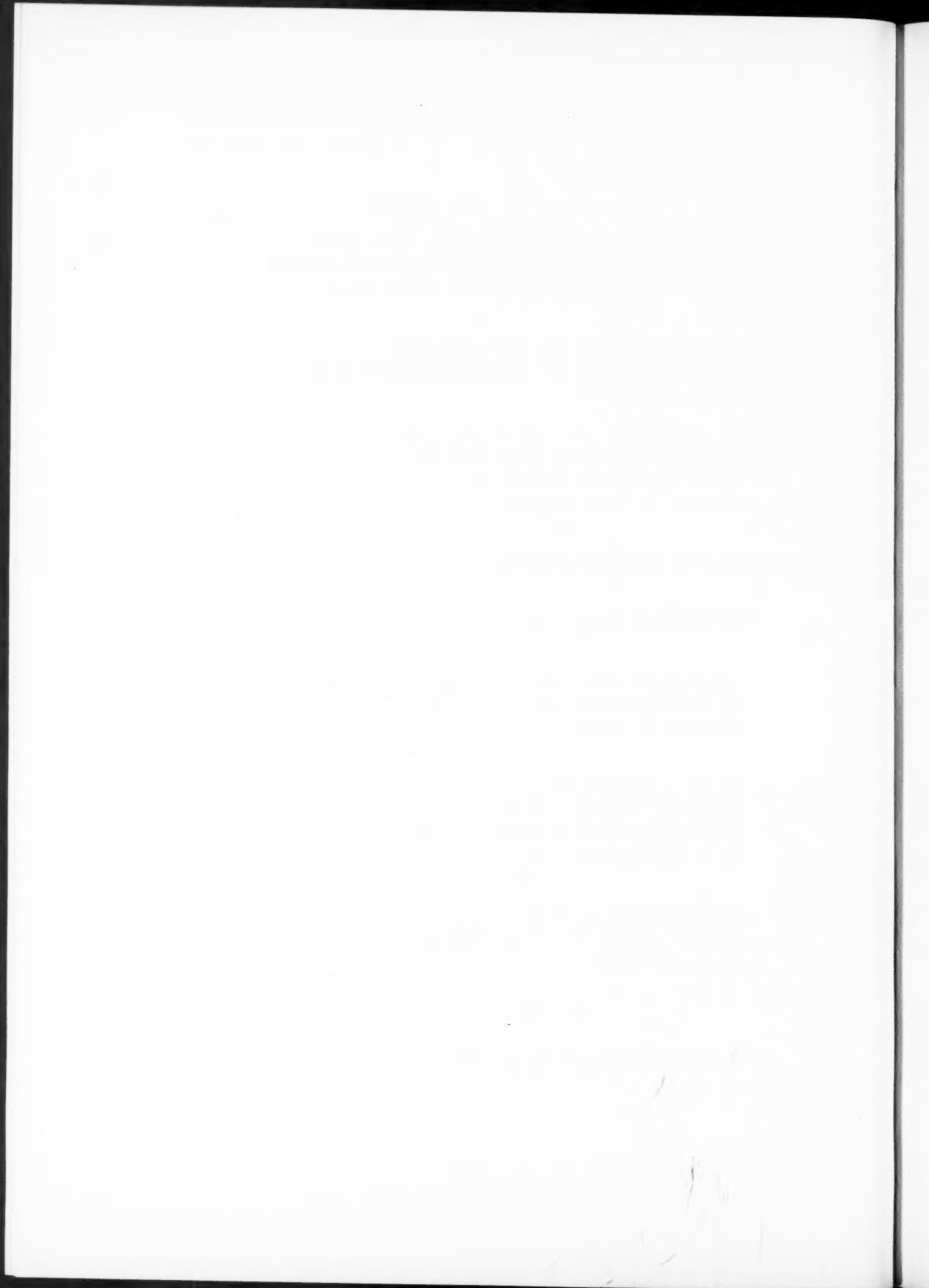
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ECONOMIC DEVELOPMENT AND POPULATION

Two important international conferences on population issues were convened soon after the October 1965 issue of the Development Digest, containing articles dealing with economic development and population, went to press. The International Conference on Family Planning Programs, in Geneva, August 23-27, was supported by the Ford Foundation and the Population Council. An international group of experts presented 30 papers dealing with family planning in all parts of the world and with scientific advances in population control. The United Nations World Population Conference in Belgrade, August 30 - September 10 (described in the October issue of the Development Digest) assembled a much larger group of experts who prepared over 500 papers on a broad range of population topics, "especially as they relate to social and economic development."

The following section is chiefly composed of excerpts from papers presented at these two conferences. All deal with population issues as they confront specific countries. Albert ASSOULINE discusses the effects of population growth on economic development in Morocco. Conversely, Roushdi HENIN explores the effect of economic development on fertility in the Sudan, indicating that increased income may raise — not lower — birth rates. The complexities of attitudes toward family size and family planning in India are studied by M. V. RAMAN of the Indian Statistical Institute. He emphasizes that successful family planning involves much more than a willingness to learn about family planning techniques. It is the techniques for bringing about rural change and their application to family planning in East Pakistan that concern Akhter Hameed KHAN and Harvey CHOLDIN.

The two most successful family planning programs yet undertaken anywhere are dealt with in the selections on Korea and Taiwan by Youn Keun CHA and Spurgeon KEENY.

THE NATURAL EVOLUTION OF THE POPULATION AND ECONOMIC DEVELOPMENT IN MOROCCO

Albert Assouline

[From a paper presented at the United Nations
World Population Conference, Belgrade,
Yugoslavia, August 30 - September 10, 1965.
Document # WPC/WP/193. Original in French.]

These are
excerpts
from the
paper.

With respect to development problems, the economy of Morocco is not unique. Like most countries in the less developed world, Morocco is experiencing rapid population growth brought about by a noticeable reduction in the death rate and the maintenance of a high birth rate. The growth rate of production is hard put to keep up with that of the population, not only to raise the average per capita income, but even just to maintain the standard of living that has been attained. Already signs of a serious distortion involving population growth and production growth are cruelly evident. When considering economic development, one cannot consider the growth of population as a phenomenon beyond the voluntary control of man. In Morocco, to a great extent, the long-term possibilities for general prosperity seem to be linked to the undertaking of a determined policy of limiting births.

Evolution of the Population

Morocco now has a population of about 13 million. Its annual rate of growth for the past decade is estimated at 3 percent, the birth rate being 50 per thousand and the death rate about 20 per thousand.

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Even though it is very high, this growth rate has probably not yet reached its maximum. The death rate, especially the high infant mortality rate which is in the neighborhood of 18 percent, can fall substantially in the coming years. Today, both rural and urban population show a very strong demand for medical services. An indication of that demand was revealed by a recent study of family budgets. The income elasticity of demand for medical care was 1.85 for urban families and 2.15 for rural ones. These are the highest elasticity coefficients with the exception of those for transport.

Furthermore, the independence of the country has created psychological conditions favorable to rapid improvement of hygienic habits and receptivity to medical practices. The Government supports this tendency by a program of mass medicine and particularly by helping disadvantaged regions. Medical services are free in Morocco, and since 1955 the Ministry of Health has tripled its expenditures. To be sure, doctors are scarce outside the cities, but the most effective programs, in terms of public health, at this stage are those in the field of preventive medicine. These can be staffed with para-medical personnel which Morocco can rapidly furnish. Therefore, ruling out rigorous financial constraints, medicine can make great progress at moderate cost. While it is difficult to be specific, the consensus of demographers is that the death rate will soon reach a level below 15 per thousand. Beyond that point, its level will be linked to the general economic and social progress of the country.

In contrast, the birth rate has not wavered perceptibly. A recent study showed that urbanization does not determine the behavior of households in this respect. The birth rate is just about the same in cities and in the countryside, in rich rural areas and in poor ones. Except within the very limited social group of young civil servants, there is no noticeable desire to limit births. Marriage is almost universal and early. Fifty-five percent of women between 15 and 20 are married, and at the age of 30 almost all of them are. Single adult males are a rarity; matrimonial life is fecund; contraception and abortion are not practiced. The gross reproduction rate is estimated at 3.5. Cultural and religious traditions surrounding birth remain strongly rooted and foster a psychological climate favorable to high fertility. Unlike some other Muslim countries, Morocco has not yet confronted this problem, which still has a pronounced religious character and which could easily be exploited by demagogues.

The different studies already made lead to the conclusion that population will grow at an increasing rate and that Morocco's population will double in less than 20 years. Such perspectives cannot help being disquieting. Already, in all stages of economic life, the alarming indices of disequilibrium between population and the capacity for economic progress are evident. The most obvious effects are the

stagnation, if not reduction of per capita production, the reduction in potential for saving, and the growth of unemployment and structural under-employment.

The Production/Population Disequilibrium

As indicated in the chart below, from 1954 to 1962 the economy was characterized by near-stagnation of GNP, rapid growth of consumption, and a striking drop in investments.

Volume index 1960 = 100	1954	1956	1958	1960	1962
Population	82	88	94	100	106
GNP	100	98	101	100	105
Consumption	89	88	93	100	109
Investment	152	111	98	100	107

Source: Bureau Comptabilité Nationale.

In urban areas at least, the drop in the average level of living, resulting from growth of GNP noticeably slower than that of population, was cushioned by the Moroccanization of many jobs since independence. Thus, more of the GNP could be distributed to nationals. Nevertheless, the fall in per capita GNP is real.

The fall in the rate of investment from 15 percent in 1954 to 9 percent in 1962 is still more alarming. The principal causes of this drop are the drying up of foreign capital investment and a certain disruption of the expansion of the modern economy, largely run by foreigners, when Morocco regained her independence. However, one cannot ignore the shift from saving to consumption as the level of living falls. Moreover, the propensity to consume, already high due to the low per capita income of US\$150 per year is reinforced by unemployment, under-employment, and a strong sense of family solidarity which leads to the sharing of the salaries of those who work.

Unemployment estimates for men in the urban work force from 15 to 65 years range from 20 to 30 percent. Now only 15 percent of urban women are employed, but the social rigidities that restrain female employment seem destined to disappear completely. Since desire to raise living levels and the urgency of consumption needs are becoming greater, female unemployment will weigh more heavily on the labor market.

In the countryside, the notion of under-employment is complex. Within the framework of traditional life, everyone finds employment, the intensity of which depends on the agricultural season. However, rural outmigration, which has accounted for half of the growth of cities in recent years, is a manifestation of rural unemployment. Agricultural under-employment can be estimated by comparing the number of days necessary for cultivation, given existing techniques, and the number of workdays available. Thus evaluated, Moroccan rural under-employment is around 40 to 45 percent.

In all, less than 50 percent of the population of labor force age supports the entire population. While the statistics are not available, it is just about certain that unemployment and under-employment have become worse in recent years. Merely to offset population growth, 100,000 new jobs must be created each year. Based on the rather optimistic estimate that an investment of US\$4,000 is necessary to create one permanent job, it would be necessary to invest US\$400 million per year just to avoid a further deterioration in the employment situation. However, in recent years, the gross annual investment hardly exceeded US\$200 million. To be sure, such estimates are tentative, but they underscore the problem of employment relative to the present demographic situation and to the financial constraints.

There are many more disequilibria in the economy due to the population explosion than can be mentioned here. It becomes clearer and clearer that economic progress, which would permit Morocco to raise her people's standard of living and to join the ranks of the developed, depends on a race between the growth rates of the population and of production. In that race, at the present moment, unhappily, production is not winning. The foundations of the renewal of Moroccan society are in gestation. One can build in the political and juridical spheres, build human capital, and undertake indispensable structural changes, but these steps hardly matter. It is a time of beginnings during which it is extremely difficult to achieve high and regular growth rates of production. Morocco needs a respite from rapid population growth in order to transform itself into a modern country capable of assuring the well-being of its population. It is all the more important that tomorrow's leaders not find themselves faced with the terrible obstacle that relative overpopulation constitutes.

In order to safeguard the future, Morocco must envisage a bold policy of birth limitation.

SOME ASPECTS OF THE EFFECTS
OF ECONOMIC DEVELOPMENT
ON FERTILITY IN THE SUDAN

Roushdi A. Henin

[From a paper presented at the United Nations
World Population Conference, Belgrade,
Yugoslavia, August 30 - September 10, 1965.
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These are
excerpts
from the
paper.

The purpose of this paper is to study the effect of economic development on fertility. The Gezira Scheme has been taken as a case study. The reason for this is that it represents the type of economic development that is prevailing and is likely to prevail in the Sudan for some time to come. Capital output ratios have been worked out as part of the preparations for the Ten Year Plan and they point to the much more favourable investment in agriculture.

The Gezira has an area of about one million acres. Irrigation schemes were recently extended to the Managil area and this added another million acres. Further irrigation schemes now under construction are likely to add about three million acres. Before the introduction of the irrigation schemes, the inhabitants of these areas depended on livestock, which necessitated their being nomadic. This did not prevent them from cultivating some cereals on the rainlands.

First, we shall study the fertility differentials between the settled and nomadic populations. For this purpose, we have chosen six census areas whose population is completely settled in the Gezira Scheme

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and five predominantly nomadic census areas from Darfur and Kordofan provinces in the west and Kassala province in the east of the Sudan.

Our analysis will proceed as follows: Firstly, the average size of completed family for women who were past childbearing age at the time of the census will be studied for the two groups of census areas. This will throw some light on the fertility of the older cohorts, when the population of the now settled group of census areas was presumably nomadic, or at least partly nomadic and partly dependent on rain cultivation. This will be followed by a study of contemporary fertility, that is, fertility of women in the reproductive ages, to see whether either of the two groups has been subjected to any change in its fertility level. For this purpose, we shall compare the general fertility rate, using the number of births during the 12 months preceding the census and the women of childbearing age.

Economic Development Brings Higher Fertility

The average size of completed family for women who were past childbearing age at the time of the census and general fertility rates of the two populations are shown below.

	<u>Nomadic Groups</u>	<u>Settled Groups</u>
Average Size of Completed Family	4.756	4.884
General Fertility Rate	142.8	265.7

As can be seen from the above, there is almost no difference in the average size of completed family for women who are past childbearing age for the two groups of census areas. However, if we take the general fertility rate for the nomadic group as 100, that for the six settled census areas is about 180.

The above analysis may throw some light on the fertility differentials between the nomadic and the settled population as well as the possible rise in the level of fertility of the nomadic population when the settlement schemes now under consideration come into effect. What are the factors behind these differentials? Both are Moslem populations who do not practice any form of birth control. Therefore, amongst the nomadic population, there must be certain factors which keep their family size from reaching the settled fertility levels.

Factors Explaining Differential Fertility

No data are available on such aspects as per capita income, output, etc., of the nomadic populations. Judging, however, from the

per capita incomes in Darfur, Kordofan, or Kassala provinces which are predominantly nomadic, on the one hand, and in the Blue Nile province which has been subjected in the past and at present to heavy investment in agriculture, on the other, there seems no doubt that the per capita income of a Gezira farmer is far higher than that of a nomad who depends for his livelihood on livestock raising. In preindustrial societies, early marriage, if it can be afforded, is the order of the day. The low per capita income amongst the nomads may be one of the factors behind the high age at marriage as well as low proportions marrying as compared with the settled population.

By establishing the number of wives who may be "divorced or widowed," then by adding this to the number of "single" women, and by relating this to the total females over puberty, we may be able to arrive at the order of magnitude of the proportion of women who were not contributing to reproduction at the time of the census in the two groups of areas. The male population is subjected to the same analysis.

Proportion of Persons over Puberty Single, Divorced and Widowed

	<u>Nomadic</u>	<u>Settled</u>
<u>Females</u>	100.0%	100.0%
Single	12.7	7.8
Divorced or Widowed	15.2	7.0
Total Not Contributing to Reproduction	27.9	14.8
<u>Males</u>	100.0%	100.0%
Single	29.2	24.3
Divorced or Widowed	5.9	3.6
Total	35.1	27.9

While 14.8 percent of the females over puberty (i. e., 7.8 percent single + 7.0 percent widowed) were not contributing to reproduction in the settled group at the time of the census, the comparable proportion for the nomadic group was almost twice as high. In fact, the higher proportion single may reflect not only a lower proportion marrying, but also possibly higher age at marriage amongst the nomadic women.

Similarly, the higher percentage single amongst the nomadic males suggests differences in proportions married as well as in age at marriage. As can be seen from the above table, while 72.1 percent of the settled males over puberty were actually married at the time of the census, only 64.9 percent were married amongst the nomads.

It must, however, be added that differences in proportion married, age at marriage, stability of marriage, etc., cannot be expected to explain all the differences in fertility between the two types of communities. It is known, for example, that venereal disease as well as malaria are rampant amongst the nomads, that is, judging from the returns from province medical inspectors of health. Such returns cover only the very small fraction of the nomads that go near hospitals. Generally, it can be said that they are not covered to any extent by any type of medical service. This is not to mention the absence of midwives at the time of delivery. Added to this is the shortage of water during parts of the year, with the result that standards of hygiene are very poor.

Some claim that venereal disease could be a factor because it often causes sterility among both women and men who are infected and cannot be cured because of absence of medical services. Also, malaria may lead to interruption of pregnancy and abortions. The connection between venereal disease and malaria, on the one hand, and miscarriages, on the other, will not be discussed in detail, but it is felt that a higher miscarriage rate could be a possible explanation for low fertility amongst the nomads of the Sudan.

Closely connected with health conditions, is the rate of mortality. This study is not meant to examine this aspect, but there is no doubt that, with settlement in villages that can be easily reached by medical services, mortality will decline. This, coupled with the rise in fertility as we have seen above, could result in a much higher rate of population growth than is now observed for the nomadic population.

Effects on Economic Development

Needless to add, a higher rate of population growth resulting from settling a good part of the population which is now nomadic or semi-nomadic creates extra burdens for a developing country. A higher rate of population growth requires a higher level of needed investment to achieve a given per capita income. This can be made clear by the following examples.

Supposing that the crude death rate is uniform in the two groups of census areas and is equal to about 20 per thousand. The crude birth rate has been calculated and was found to be 35 per thousand and 55 per thousand for the nomadic and settled groups, respectively. This means a crude rate of natural increase of 1.5 and 3.5 for the nomadic and settled groups, respectively. Supposing also that the capital/output ratio is 3:1 in agriculture in the Sudan. With these assumptions, using the nomadic vital rates, 4.5 percent of the net domestic product would need to be invested annually to keep the per capita income constant. On the other hand, if the nomadic population is subjected to the

"settled" vital rates, then 10.5 percent of the net domestic product would need to be invested annually to achieve the same results.

Further, higher levels of fertility would result in an ever broader-based age distribution. This, in turn, results in a higher dependency ratio (i. e., the ratio of persons under 15 to those between 15 and 65) with repercussions on consumption and output. As the base gets broader, consumption increases at a higher rate than production, with further repercussions on the ability to invest.

All this points to the need for family planning programmes which must be incorporated in any resettlement scheme. Prior to this, further studies of these communities are needed to see in what direction they will react to family planning, with the object of adopting the right approach which would make such a programme successful.

ATTITUDES TOWARD FAMILY
SIZE AND FERTILITY CONTROL
IN INDIA — AN ASSESSMENT

M. V. Raman

[From a paper presented at the United Nations
World Population Conference, Belgrade,
Yugoslavia, August 30 - September 10, 1965.
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These are
excerpts
from the
paper.

The current rate of population increase in India, over 2 percent annually, is unprecedented. The expected decline in the death rate will naturally accelerate the rate of growth, which is liable to get a further boost with a possible increase in the birth rate for which there exist some fairly convincing indications. The government recognizes that the manner in which the population is growing threatens to defeat efforts toward national development and that there is need to stabilize the population at a level consistent with the requirements of national economy. This realization has brought to the fore the question of lowering the birth rate. For achieving this, major national programmes are being promoted. Lowering the birth rate is a novel objective for a government and hardly any country could boast of having achieved fertility control on a large scale through planned social effort. Our current programmes are, therefore, necessarily experimental.

The task of preparing the population for the acceptance and adoption of fertility regulation is by no means simple in the developing countries. It is essential to know, first of all, how the people

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concerned feel about family size and limitation and their attitudes toward the use of contraceptives. The available information in these respects, though patchy, requires careful consideration and guarded interpretation to be useful in planning future programmes. In the following paragraphs, an attempt is made to critically examine the findings of some of the recent surveys in order to obtain a generalized picture.

Action in the area of fertility control, as stated earlier, is governed by a host of variables in the fertility complex, such as attitudes and beliefs relating to family size and limitation, knowledge and availability of means of fertility control and, above all, motivation to practise. Some of these are possibly interrelated and modified by social and economic changes. In developing countries, therefore, effective planning, execution and extension of family planning programmes largely depend upon a proper assessment of the above and allied factors.

Attitudes Toward Family Size

One of the factors influencing fertility is the desire for children. By and large, this is governed by traditional values and personal circumstances, the former usually having a greater sway in less developed countries, particularly in the rural sector. Nevertheless, the character of the fertility factors tends to change under the impact of modernization forces.

In view of the deficiencies in the information on attitudes toward fertility, we could only indicate, within limits, the broad pattern of these attitudes and how they are likely to be affected by factors influenced by socio-economic development.

In India, religion is still an important factor to be reckoned with and not a spent force as some believe it to be. It is often said that the Hindu religion (about 84 percent are Hindus in India) is not antagonistic to the practise of birth control. This is, however, a moot point. In fact, it is rarely that we come across active, explicit and clear support for the idea of family size regulation in the tenets of the Hindu religion. On the contrary, there are substantial indications of religious sanctions and encouragement for larger families. No doubt, some of these attitudes and sentiments toward fertility have certainly outlived their utility and have become anachronisms. It is the failure of the people to realize this that constitutes one of the arresting forces in the development of a small family ideal and the adoption of fertility control methods. Further, it is relevant to observe that there are certain religious practises and injunctions, such as objections to widow remarriage and taboos on sex relations which, though not prescribed for their effect on fertility, tend to lower fertility.

The overall impression gained by a perusal of the information on attitudes of couples toward family size is that most couples desire to have a small family. But does this imply that the motivation for a small-sized family is really strong? The experience of the developing nations does not provide a clear-cut and easy answer to this. If motivation had been strong, normally it would have been reflected in the behaviour itself. But behaviour aimed at controlling fertility is almost absent or of very little consequence, as we may see later in this discussion. It may, however, be conceded that, because of the general lack of knowledge of fertility control, as is the case in less developed areas, behaviour cannot be taken as a fair test of motivation. Nevertheless, one would expect that if motivation had been high, husband-wife communication on the number of children desired would have been more frequent. The broad picture that emerges indicates that there is lack of inter-spousal communication.

A clear formulation of the social class differential in family size preferences in India is rather difficult in view of the vagaries in the existing information, presumably due to regional and other effects. Some of the fertility investigations have indicated that, with rise in the socio-economic status, the number of children desired also increased. Responses of women in Calcutta show that under "existing" conditions they would prefer 2 children while under "ideal" conditions they would prefer 4. This attitude calls for closer study, particularly in the light of the expected improvement in the economic situation consequent upon the operation of development plans.

On the other hand, contrasting results have been obtained from other studies. For instance, in Kanpur, an industrial city in Uttar Pradesh, while there was no difference in the number of children desired by illiterate and primary-educated women, the number desired was less in the case of secondary- and college-educated women. In Bangalore City, a high educational level and high economic status were found to be correlated with desire to have a small family. If that be so, the implication is that, with the rising levels of living, large numbers of couples will begin to accept the small family norm and may also make attempts to implement it to the extent possible. However, the diverse nature of information precludes any firm statements being made in this regard. Further, conclusions from survey results have to be drawn with a certain amount of reservation. Stephan has aptly observed, "When we ask people about their preferences and attitudes, what we actually obtain is not a set of data on motivations, but a set of expressed opinions — that is, statements people make in answer to questions. These statements are expressions of attitudes, and they do not always clearly indicate peoples' behavior."

Attitudes Toward Fertility Control

A close second look at the available data reveals the conflicting nature of information in this regard and the consequent difficulty in arriving at pointed conclusions.

Some of the inquiries seem to suggest that a fair proportion of men and women are receptive to the idea of fertility control. A significant finding of another study is that about 60 and 40 percent of the females in the rural and urban parts respectively of Kolaba District (near Bombay) wanted a controlled family without any deliberate attempt at limitation. This attitude smacks of ambivalence and cannot be taken as indicative of any serious forward step for the adoption of family planning. On the other hand, such an attitude, expressed after recognizing the desirability of a regulated family, possibly reflects the great aversion these women have for making deliberate attempts at limitation. It is known that some women are unable to take practical steps because of husband opposition to contraception. It is rather difficult to explain in simple terms the negative attitude of these husbands. Perhaps, to some extent, the questions of prestige and selfish considerations are involved. Some husbands seem to think that contraception is their prerogative and any initiative in this field must rest with them. It may also be possible that husbands generally have a greater desire for children than wives. The findings of the Mysore Population Study lend some support to the latter view. Both in Bangalore City and in the rural areas, among women with 4 to 6 living children, 17 and 33 percent respectively desired to have more children, while among the husbands interviewed, the corresponding percentages were 32 and 45. A similar pattern was displayed in all the family-size groups. In view of the established male dominance in the Indian family system, the implications of the above observations cannot be underrated when planning programmes for fertility regulation.

The barriers to the active promotion of family planning include also beliefs such as, that contraception is against religion and that it leads to immorality. Besides, there might be social, psychological and cultural objections to the adoption of methods for limiting fertility. It is frequently stated that lack of knowledge and of facilities are major hurdles to active practise. This argument appears to be only partially tenable, since action ultimately depends on motivation and not on mere knowledge or availability of methods.

It has been observed that a large majority of the couples are in favour of learning family planning methods. In rural Singur near Calcutta, about 80 percent had expressed some willingness to learn methods of fertility control, or at least had no objection. However, it may be remembered that approving of the idea of family planning or even accepting supplies, though a necessary prelude to practise, is not

tantamount to practise. The India-Harvard-Ludhiana Population Study has clearly brought out the wide divergence between acceptance and practise of birth control. While 80 percent of the couples reported willingness to learn a contraceptive method, only about 45 percent used some method at some time during the study period, and after about $2\frac{1}{2}$ years of sustained effort, only 17 percent of the couples were found practising. It is, therefore, necessary to view this expressed willingness to learn about family planning in the light of the existing, wide gap between knowledge or availability of methods, on the one hand, and practise, on the other. In this context, Agarwala's observations merit repetition. He says, "The large difference between the proportion who knew a method and those using birth control leads one to interpret the figures relating to willingness to learn a method with caution. It is quite likely that many who expressed willingness to learn would not use a method, even if facilities were made available to them."

Any substantial reduction in the birth rate could be achieved only by involving the vast rural masses. In this context, the findings of a survey in Uttar Pradesh are significant. It has been pointed out that agriculturists, as a class, are more indifferent to family planning, since relatively a greater proportion (61 percent) of this group is in favour of large families. Similar findings were observed elsewhere also. These findings are indeed discouraging if read against the fact that about 70 percent of the workers in India are agriculturists.

Even after more than 10 years of exposure to family planning programmes, the results of some of the recent surveys, briefly reported in the press, are highly disconcerting, and they call for a reexamination of the psychological and cultural environment. A recent survey in a village in Madras has revealed the astounding fact that only about a quarter of the couples expressed themselves in favour of family planning, while the remaining were indifferent or against. The results of a study in West Bengal showed that about 54 percent of the women interviewed disapproved of family planning because of their conservative social outlook. This study has further indicated that as many as 65 percent of the couples who practise family planning do so for economic motives. An earlier study in Calcutta has also indicated that most of the few couples who practise contraception do so because of adverse economic pressures. If the above assessment is correct, one wonders how the expected improvement in the economic situation arising out of the operation of the development plans will affect the progress of family planning in this country. Perhaps, with the improvement in the economic conditions, there might also be a corresponding and favourable change in the social and mental outlook.

In the foregoing paragraphs the attitudes to family size and fertility regulation were briefly reviewed. In the face of apparent

contradictions and inconsistencies in the expressed attitudes, it is rather difficult to come to firm conclusions. Further, these attitudes are not always translated into action, showing thereby that they are not properly set and that possibly some problems of conscience and conflict are involved. It is the removal of these problems, not the mere availability of cheap and effective contraceptives, that will eventually lead to the popular acceptance and adoption of birth control. A revolution in the mental, psychological and cultural attitudes which alone can lead to a conscious control of fertility is, therefore, what is urgently needed.

APPLICATION OF A THEORY
OF RURAL DEVELOPMENT
TO FAMILY PLANNING
IN EAST PAKISTAN

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These are
excerpts
from the
paper.

Through experimentation, research, and observation in a limited area in East Pakistan, a working model of a set of institutions for development has been developed. Training of government officers, social research, and pilot projects have been focused upon a rural laboratory area since 1959. The Comilla Projects [see Development Digest, Volume III, Number 2, July 1965, Richard V. Gilbert, "The Works Programme in East Pakistan"] consist of a training and research academy plus development projects which have grown from it: a cooperative federation, an administration development centre and three other pilot projects in women's education, family planning and village schools. This paper describes the principles and lessons learned from the Comilla Projects and their application to problems of family planning.

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Principles and Lessons at Comilla

The principles outlined here have been derived through observation of previous programmes and attempts at Comilla, including successes and failures.

Local autonomy and experimentation. The projects proceeded by trial and error, adapting to the actual setting with its individual characteristics. It was necessary to modify and change programmes as they progressed.

Building on local leadership, customs, and institutions. Whenever possible, we have tried to work within established customs and leadership, introducing modifications of the existing system which would yield added benefits. The local leaders are able to communicate with and teach their peers in ways in which the outsider cannot. The project has found ways to recruit local leaders, to teach them and to help them teach the villagers. The village people select their own leaders and teachers.

Necessity of building a new village organisation. Observation of a previous community development agricultural extension project led us to believe that change must come from within the village, with help from outside. However, the traditional order of the villages was in transition, and no established community organisation was available. Therefore, we began to build a cooperative system, a new organisation, within the villages. The cooperative organisation in each village made a place for change to be accepted (or rejected) in a group. It provides a forum in which new ideas can be introduced and it gives a mechanism for the villagers to choose their own leaders and teachers.

The training scheme.

a) A teaching and demonstration centre is necessary outside the village. The local leaders in the Comilla Projects have been trained outside the village by "experts." They have been taken out of the group where the old ways are anchored and exposed to new people, places, and ideas. The nonvillage expert, the trained worker, can be more effective as a teacher at the centre than in the village. Then, with what he has learned at the centre, the villager becomes a teacher at home.

b) We have tried to induce the officers of the specialised departments (the experts) to become teachers of the villagers. The purpose of the departments is to promote change and development.

c) The centre must be stable and dependable. Villagers have seen many improvement campaigns come and go over the years, and they expect any new programme to be short-lived. The centre must prove its dependability over a period of years.

d) The approach must be comprehensive. The Comilla Projects have emphasised several fields of development simultaneously, starting with agriculture and administration. These led to work in family planning, education, and women's education.

e) Coordination and rigorous supervision are necessary. The multi-purpose programme means that various departments must work closely together. The emphasis on teaching by officers has made tight supervision necessary, as the officers must be induced to go into the field and to perform new tasks.

f) Training must be continuous. Lessons must be repeated and repeated. In the pilot project, the farmers receive training one day per week, year after year. The old ways change slowly.

The style of work has been pragmatic and flexible. Failing projects have been dropped. Small-scale field work precedes planning. Before making a plan or a manual of procedures, work proceeds for six months or a year to make a working model.

This, essentially, is the rationale for what has been done. The principles will be tested and modified as the project expands into other areas of East Pakistan.

Application to Problems of Family Planning

The family planning pilot project incorporates most of the principles and methods outlined above. The project "started small" and expanded as soon as possible.

The project has worked within the context of the comprehensive development project, in close connection with the cooperative and women's education projects. At first, when the approach was more tentative, family planning was introduced only in villages with cooperative societies, through the societies. After it was observed that the villagers were interested in family planning and would not resist efforts to promote it, the project expanded to other villages. Mindful that the cooperatives and women's programmes were not available in most other places in the province, a system was devised for working without them.

First, 10 villages were studied, then 35 villages joined. Then the project was expanded to approach all 246 villages of the area, plus 3 additional areas of equal size.

The method of promotion changed from an intensive to an extensive approach. In both approaches, villagers and officers are teachers, the centre is utilised, and teaching is repetitive and continuous.

In the first 10 villages, the members of the cooperatives decided whether or not to join the project. Each village group selected a woman of the village to be the organiser for family planning — teacher and supply distributor. That woman thereafter came weekly to the centre for classes on family planning, discussion of problems in the work, reporting of sales for the week, and gathering of fresh supplies of contraceptives. Later, this system was expanded to include 25 additional villages with some male organisers (village homeopathic and untrained doctors), plus more housewives and some village untrained midwives. In the system, all the organisers were paid small monthly salaries. The teaching in the villages was continuous also, with repeated visits by the organizers to the village women.

In February 1964, a new approach was added: distribution of contraceptives through shops. The goal was to open a large number of channels of supplies to the villagers to allow easy, private distribution. The training of the agents was done in the field by the staff of the family planning project, with monthly field visits to refill supplies. The contraceptives are subsidised by the Government. The sellers sell them at a fixed price with a profit margin for themselves. This commercial system was also set up with female agents and was duplicated in 3 other areas in East Pakistan.

A publicity system was built through indigenous methods. Local singers were hired to write songs and jingles about family planning in traditional song styles. Then singers were hired to perform in market-places and villages. This method of publicity proved more feasible than outdoor movie shows.

Results in Family Planning

At this point, data are available on the project in the first 10 villages. The general indications of the data are:

- 1) The village people have shown themselves to be interested in family planning by adopting or trying the practise.
- 2) They are capable of using traditional nonmedical contraceptive devices (condoms and foaming tablets) effectively.
- 3) It is possible to organise a nonmedical educational and distributional programme through local people of low educational level with support from community-development-type workers.

The 10 female village organisers recruited a total of 452 couples to try family planning in 36 months of work in the first 5 villages and 24 months in the second 5 villages. The target population, fertile married couples with the wife in the childbearing ages, was 880. Of

these, 365 couples, or 41 percent of the eligible couples inside the villages, tried family planning (i.e., purchased some contraceptives). (The other 87 couples lived outside the 10 villages.) The contraceptives were purchased primarily by the wives, and a few males began to purchase supplies after the programme had proceeded more than one year. (Eight of the villages are Muslim villages, 2 are Hindu.)

Of the 452 who made an initial purchase, 242 continued to purchase supplies (i.e., never went 3 consecutive months without purchasing supplies). Two hundred ten, or 46 percent dropped out (went 3 months or more without any purchase). Forty of the dropouts came to purchase supplies again and 170 were permanent dropouts.

Of the 452 wives joining, 30 were later found to have been pregnant at the time of first purchase of supplies. Another 28 dropped out, giving pregnancy as the reason seven months or more after first purchasing contraceptives. Of these 58 women who were or became pregnant, 28 tried family planning again after delivery. Twelve of the 58 were pregnant or had recently delivered at the time of the review, so it could not be determined whether they would try family planning again.

A follow-up study of all the permanent dropouts showed that 30 of them were pregnant between the time of dropping out and the time of the survey. Of these 30, 15 of the pregnancies terminated within 8 months of the date of last purchase and 5 more either delivered 9 to 10 months after dropping out or conceived within 2 months of dropping out.

In literacy and landholding, the distribution of those adopting family planning is not different from the village distributions as a whole. The landless and illiterate are no less likely to try and to continue using family planning than landholders and literate persons in the villages.

Similar data are not yet collected for the commercial system through shops, although first observations are that the system will reach a lower percentage of the eligible couples, but in a greater number of villages.

The initial 10 villages indicate that even in conditions of extreme poverty, low literacy, high religiosity, and high population density, family planning can be promoted and accepted. Nonmedical village and staff personnel have worked in a system following principles used in the rural development projects at Comilla.

Though the data here are from a small pilot project, the system will be tested in 1966 in an entire district with a population of over 4.5 million persons.

DEVELOPMENT OF THE KOREAN NATIONAL FAMILY PLANNING PROGRAM

Youn Keun Cha

[From a paper presented at the International Conference on Family Planning Programs, Geneva, Switzerland, August 23-27, 1965, sponsored by the Population Council and the Ford Foundation. The proceedings of the Conference will be published as Family Planning Programs: Proceedings of an International Conference, August 1965, edited by the Planning Committee for the Conference, Chicago, University of Chicago Press, 1966.]

These are
excerpts
from the
paper.

The Republic of Korea has a population of approximately 28 million which is increasing yearly at the rate of about 2.9 percent. Birth and death rates are estimated at 40 and 11 per 1,000 respectively. Population distribution by age groups is approximately 0-19: 54 percent, 20-44: 31 percent, and 45-plus: 15 percent.

Population density in Korea is about 280 per sq./km. Despite the fact that less than 22 percent of its countryside is arable, this mountainous nation is an agricultural one. About 70 percent of the people reside in rural areas, and most of them attempt to make a living from the soil. This means that the average-size farm is about two acres, which, coupled with the average rural family of six persons, results in a meager surplus of produce. Hence, funds for land improvement and support of community enterprises are extremely limited.

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Other evidence of the need to achieve a better reproduction-production balance is reflected in the crowded housing conditions — five or six persons to the average dwelling of two rooms. At present, it is estimated that two million more homes are required to provide adequate living space.

Linked with the problem of food and housing is the scarcity of jobs, with about 2,750,000 unemployed or underemployed out of the total labor force (age 14-60) of about 10,500,000. The resultant per capita income is about US\$70.-80.

The need to initiate the practice of family planning in Korea was critical, and immediate action was further indicated in 1960 when the economic growth rate of 2.6 percent was submerged by the concurrent 2.9 percent natural population increase.

The key factor in expediting recognition and initiation of a program to achieve a better reproduction-production balance in Korea was the military revolution in May 1961. The new leaders were and are determined to eliminate or modify all problems limiting economic gains and the improvement of living standards. In this effort, the Supreme Council for National Reconstruction was established. The Council, following review, approved the plan developed by the Ministry of Health and Social Affairs to provide nationwide family planning services, announced it as a policy, allocated development funds from the investment budget, and adopted its targets among the priority goals of the five-year economic development plan. Simultaneously, the Council repealed a law prohibiting the importation of medicines or instruments to be used in contraception.

The Family Planning Program

Reduction in the natural rate of population growth to about 2 percent by the end of 1971 is the overall objective of the family planning action program. To achieve this goal, it will be necessary to secure 1,500,000 participants in the program, or approximately one-third of the eligible couples in the 20-44 age group. Specific targets have been tentatively established as follows: 300,000 regular users of traditional contraceptives, 200,000 vasectomies, and 1,000,000 insertions of intra-uterine devices (IUDs).

The Ministry of Health and Social Affairs was assigned responsibility for organization, implementation, and eventual integration of the program with the maternal and child health services. The program was disseminated to the public through the nationwide health network by adding family planning field workers to the regular staff of the health centers.

The family planning advisory committee to the Minister was formed to consider and define general policies in connection with the program in February 1962. The new section for family planning was created in the Ministry in June 1963. Following this action, most of the provincial governments established family planning sub-sections during the first half of 1964.

Since April 1965, a total of 2,207 field workers have been assigned to the nationwide family planning organization: 11 field supervisors, 723 senior field workers, and 1,473 assistant field workers. The health centers, which administer and execute projects in the field of public health within each autonomous community, are the centers for family planning activities. There are 189 health centers in the country. Each center serves 150,000 people on the average and has 3 or 4 senior field workers. Every township with about 10,000 population has been assigned one assistant field worker.

The Growth of the Program

The basic aim of family planning workers in Korea is to contact all eligible couples wishing to practice family planning, or otherwise to make contraceptive information, supplies, and clinical services (IUD-vasectomy) as available as possible. Emphasis of effort, however, is on contacting couples ready and willing to participate in the program. Records show that the majority of this group will have 4 or more children with at least 2 sons, and will be in the 30-39 age bracket. Priority in reaching this group is also verified by studies indicating that four children is the average number desired by most couples, following which the majority state that they are ready to close the family for economic reasons.

All services are provided free of charge to couples judged unable to pay for expendable items on a continuing basis or for the clinic fees of about US\$1.20 per IUD insertion and US\$2.00 for vasectomy. Three types of traditional contraceptives: condom, spermicidal foam tablet and jelly are provided.

Results of the above services, according to analysis of monthly reports from health centers, indicate:

- a) 171,504 wives, as of March 31, 1965, had participated in the IUD service. Of this total, 68 percent were in the 30-39 age bracket, and 20.3 percent were in the 25-29 age group. Selection of the IUD by the younger mothers clearly points out that it is being accepted in Korea for the purpose of spacing children.
- b) 52,947 husbands, as of March 31, 1965, had participated in the vasectomy service. Of this total, 60.4 percent were in the 35-44 age bracket.

- c) Average monthly free distribution of contraceptives was to 59,352 couples in 1962, 129,804 in 1963, and 156,301 in 1964. What the chief item of supply will be in 1965 is hard to predict. According to a study in two selected areas, 36.8 percent had shifted to the IUD from condoms, and 41.3 percent to the IUD from foam tablets. However, despite the fact that they are more expensive on a continuing basis and, of course, much less effective, traditional contraceptives will continue to be offered as a choice in the program because of their value as a bridge to the IUD and for selection by the estimated 20 percent of Korean wives who cannot retain or tolerate the IUD.
- d) Total population served per worker in 1962 was 142,000 as compared to the 13,287 served per worker in 1964. Improved service capabilities are also reflected in the 18,832 home visits and 2,801 group meetings per month carried out by the field staff in 1962 as compared to the 170,898 home visits and 16,021 group meetings per month carried out by the field staff in 1964.

Training family planning workers. In Korea, the action preparation given all field workers is both academic and practical. It covers all subjects in family planning plus related public health topics considered essential and helpful in increasing the worker's ability to meet the public and to provide simple health information and referral services during home visits and group meetings.

Teaching methods employed are lecture, workshop, and demonstration. Emphasis is on what to do and how to do it through simulated field situations where the knowledge acquired is applied, and the various program aids provided are demonstrated. "Learn by doing" is the keynote of all training programs, with students serving as "eligibles" and "critics." Trainees are provided take-home teaching manuals containing outlines of the subject matter covered and the workshop situations they will participate in during the course. An examination is given, followed by an evaluation session at the end of each training program.

Four provincial training centers, in addition to the national public health training institute in Seoul, are utilized in teaching the courses, which vary in length from two to four weeks according to background and experience of the participants.

In Korea, all training responsibilities have been delegated to the Planned Parenthood Federation of Korea, an organization rich in leadership and composed of members representing all professions necessary to teach the specialties required to produce family planning workers both well informed and adequately prepared from the standpoint of public relations to contact eligible couples interested in practicing family planning.

Supplies. All four types of contraceptives required to carry out family planning services are now being produced in Korea. This is a major step forward in assuring steady growth of the family planning movement. It has expedited supply procurement, reduced foreign exchange requirements, and, most important, increased the availability of contraceptives, particularly condoms, for commercial purchase.

Traditional contraceptives are issued to users in quantities judged adequate for one month: one vial containing 16 foam tablets, one package of 6 condoms, and 15 grams of spermicidal jelly packed in 3 plastic containers. About 40 percent of the total available traditional contraceptives in the country during years 1962 and 1963 have been distributed free through governmental supply depots. IUDs are distributed to "free" clinics (subsidized) through local health centers, and to "charge" clinics (paid by acceptors) directly. Twenty inserters per clinic have also been provided. Other necessary equipment and expendables, such as antiseptic and cotton, are not supplied.

Wholesale cost of locally made traditional contraceptives is approximately US\$0.08 per dozen for condoms, US\$0.086 per vial for foam tablets, and US\$0.176 per 30 grams of jelly. IUD materials and processing cost about US\$0.02 per IUD. The cost of producing inserters locally is approximately \$US0.27 each.

Program aids. Every effort in Korea has been made to develop and provide family planning workers with simple, practical program aids to reinforce their primary task of informing eligible couples about the family planning program and to demonstrate contraceptive methods and materials. Likewise, emphasis on the audio-visual and mass media program is informative rather than persuasive. Content is aimed at illustrating the reproductive process, contraceptive methods, and stating where the services are available.

In support of the public information program, aside from providing the press with articles and conducting radio and TV programs, three movies have been produced, exhibits held, and mass enlightenment activities of all types carried out during May, which has been officially proclaimed as family planning month. Also, a potent force in supplementing this effort has been the whole-hearted cooperation and support provided by the Korean Planned Parenthood Federation, the Office of Public Information, the National Reconstruction Movement, the Office of Rural Development Workers, and the publishers of numerous magazines and professional journals. Fortunately, also, the literacy rate in Korea is about 72 percent and religious opposition is less than 1 percent.

Survey of Results of the Program

Based on analysis of two nationwide knowledge, attitude and practice surveys of some 3,500 couples under 44 years of age, conducted in April 1964 and again in April 1965, the following data reflect present program status and growth during the period of one year.

a) Knowledge:

- An increase from 74 percent to 83.7 percent in the number who had "heard" about the program.
- An increase from 54.6 percent to 63.7 percent in the number who knew a method.
- Among those who knew a method, an increase from 50.5 percent to 81 percent in the number who knew condom method.
- Among those who knew a method, an increase from 11.1 percent to 70.7 percent in the number who knew the IUD method.
- Major sources of information about contraceptive measures in 1965 indicate that 64.1 percent received their information from a neighbor, 50.8 percent from the health center, 45.7 percent over the radio, 35.1 percent from chiefs of local administrative units, 33.8 percent from relatives, and 24.3 percent through newspapers.

b) Attitude:

- Among the urban population, 91.3 percent approved the use of contraceptives.
- Among the rural population, 86.6 percent approved the use of contraceptives.

c) Practice:

- An increase in those currently practicing contraception from 9.9 percent to 16.2 percent.
- An increase in those who had ever practiced from 13 percent to 22.6 percent.
- Of the 22.6 percent "ever practiced," 54.2 percent preferred the condom method, 37.8 percent foam tablets, 11.7 percent jelly, and 23.5 percent the IUD.
- Currently practicing rate in urban areas was 21 percent and 14.1 percent in the rural areas according to the 1965 survey.

Program costs. Total cost of carrying out the action program in Korea for three years has been US\$2,279,593, or an average of US\$0.031 per capita. Development of the program is reflected by yearly per capita costs of US\$0.012 in 1962, US\$0.022 in 1963, and

US\$0.048 in 1964. What future annual per capita costs will be, of course, cannot be predicted with certainty. However, at present operational costs, it is estimated that future yearly program goals can be achieved at about an annual per capita expenditure of US\$0.05. This means that within the next seven years, a total investment of approximately US\$10 million will have been incurred in attaining the 10-year goal of 1,500,000 participants.

Major achievements. As clearly indicated in this brief review, the outstanding characteristic of the Korean Family Planning Program has been its rapid expansion to meet the ever increasing requests for contraceptive information, supplies, and clinical services. Therefore, as previously shown, progress of a major nature is reflected in the yearly increase of: facilities, staff, clinics, and services rendered.

However, in terms of major achievements, less tangible, but much more important in relation to the long-range goal of lowering the natural rate of population increase, it is felt that the program has clearly demonstrated:

- a) Readiness of the Korean people to limit their children to the number they can afford to raise and educate properly.
- b) Acceptability of the IUD by Korean wives and the advantages and superior effectiveness of this method as compared to traditional contraceptives.
- c) The ease with which family planning can be integrated with the maternal and child health program.
- d) The value of mass media programs in stimulating eligibles to: visit a health center, seek further information, talk about family planning with friends, neighbors, or relatives.
- e) The potential of family planning programs in reducing the number of induced abortions.

In brief, it seems quite clear that achieving the goals of the family planning program is also the desire and will of the people.

Improving Program Quality

As pointed out above, the outstanding characteristic of the Korean Family Planning Program has been its rapid development. Therefore, it is not surprising to find that most of the unsolved problems or needs are in the area of improving the quality of the program to assure not only maximum participation in its services but also maximum satisfaction following participation. As indicated by records, reports, and sample surveys, major priority needs of the program are:

- a) To establish a referral system for acceptors of IUD and vasectomy services who may have difficulties of a nature requiring prolonged medical treatment and/or hospital care. At present, experience indicates that this is about 1 case per 1,000.
- b) To establish an in-service training program for authorized IUD and vasectomy physicians with limited pre-service training and experience in the fields of obstetrics, gynecology and urology. This will involve sending out mobile teams of qualified physicians to the rural areas and scheduling city physicians in medical schools or provincial hospitals.
- c) To make family planning information and services, including adequate follow-up procedures, more conveniently available to eligibles residing in remote areas. This will involve redistribution of present staff as well as recruitment of new workers. (Mobile teams, it is hoped, can also perform IUD and vasectomy services when not engaged in training.)
- d) To improve our methods of evaluation, to assure steady program progress, and to determine the effectiveness of our effort in lowering the birth rate. This involves refinement of our records and reports system to detect and correct program problems as soon as possible, and working more closely with the Bureau of Statistics to secure better nationwide reporting of vital statistics.

In view of the importance that word-of-mouth communication has assumed as a channel of family planning information, first priority has been given to improvement of the IUD and vasectomy services. In fact, in retrospect, despite the demand for establishment of IUD clinics, a longer training program for less-qualified physicians should have been carried out and an adequate system of referral developed concurrently with the nationwide program.

As knowledgeable readers of this report are well aware, government sponsorship of most programs has many well-documented disadvantages. For example, review of most health budgets reveals their weakness in supporting new activities, especially if the proposed project is long term and requires the addition of a large staff, distribution of free supplies, and is burdened by subsidy expenditures. Under any conditions, there are the perpetual problems of securing adequate funds for personnel training, travel, maintenance of equipment, research, and evaluation, not to mention bureaucratic rigidity, low salary scales, and the difficulty of keeping competent personnel. Fortunately, so far, in Korea, development of the program has proceeded at a rapid rate. We must add, however, that the family planning program gaps have been filled and strengthened through financial and technical assistance from abroad and by the efforts of many local groups, particularly the Planned Parenthood Federation of Korea.

THE FAMILY PLANNING PROGRAM IN TAIWAN

Spurgeon M. Keeny

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This is a
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Taiwan has a population of about 12 million, growing at about the same annual rate as Korea: 3 percent. Like Korea, it will double in about 23 years if steps in family planning are not taken. Its per capita income per year is about US\$130. It feeds itself at a level considerably higher than Korea. The population pressure is therefore less great; but there is little new arable land to develop, and agriculture, with the aid of commercial fertilizers, is already fairly highly developed. The rate of economic expansion is relatively high (about 10 percent for industry and 4 for agriculture), but there is a great need for new capital to develop industrialization, on which the future of the island depends.

Government leaders realize that, with the heavy outlay on the army and the pressing need for more money for more education (for which the Taiwanese are very hungry), something must be done about the increase of population.

They are not yet prepared to announce an official policy, but informally they encourage education on family planning. This means,

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among other things, working without much help from the press and radio. The articles that do appear are almost all favorable. To keep the legal record clear, IUDs are inserted by private doctors.

The Taichung Pilot Program

At the beginning of 1964, Taiwan was in the mood to expand from the successful research-action program in and about the small city of Taichung. Its only resources in personnel had been 120 "pre-pregnancy health (PPH) workers" attached to one-third of the island's 361 health centers in that number of townships. The only source of funds was from the Joint Commission on Rural Reconstruction (JCRR) — and those funds were shrinking. The outlook for quick expansion was grim.

Under the imaginative leadership of Dr. S. C. Hsu, of the JCRR, and the Commissioner of the Provincial Health Department, Dr. T. C. Hsu, the decision was taken to begin with the staff they had, while looking for money to expand. The 120 PPH workers were retrained on the assumption that intra-uterine devices could be used. Also, 65 village health workers (later increased to 100), who had been recruited to clean up the villages that had had cholera or that had been threatened by it 2 years before, were retrained to give half their time to family planning. This was practically all the staff available for 1964.

Meanwhile, a follow-up study on IUDs already inserted (some 4,000) was being carefully done. The results were satisfactory, and by April the Medical Advisory Board for the project, consisting of some of the island's leading specialists, gave its official approval.

The first thing to do to get a wider program going was to gain the confidence of the medical profession — especially of the obstetricians and gynecologists. Of the 300 in the 100 townships where work was going on, about 250 responded to the invitation to participate. They were given training of a day or 2, including reports on the experience with the IUDs in other countries and the side effects to be expected. They signed contracts to insert the IUDs for NT\$60 (US\$1.50), including after-care if necessary. Of this, the woman, unless indigent, was to pay half; the other half was to be paid by JCRR through the newly formed Maternal and Child Health Association.

The expansion in Taiwan was not so explosive as in Korea, but the monthly reports were watched like election returns. The figures for 1964 ran as follows:

January	516
February	478
March	1,534
April	2,631

May	3,351
June	3,613
July	4,122
August	5,111
September	6,319
October	6,462
November	5,490
December	6,822
Total	46,449

The sources of the acceptors were studied from the coupons returned by the doctors to collect their payment of NT\$30 per case. (Each coupon showed who had sent the case to the doctor.) The record for the 5,490 in November, which is fairly typical, looks like this:

330 private doctors	1,818	(33.1%)
120 PPH workers	1,793	(32.7%)
300 health centers/stations	779	(14.2%)
100 VHENS (Village Health Education Nurse)	546	(9.9%)
Others	209	(3.8%)
Maternal and Child Health Institute (Taichung)	88	(1.6%)
200 private midwives	77	(1.4%)
Military hospitals	56	(1.0%)
Family Planning Association of China	48	(0.9%)
Not clear	76	(1.4%)
Total	5,490	(100.0%)

A Program for All of Taiwan Province

Meanwhile, in the second quarter, the leaders of the project were looking about for a source of funds to expand it to the whole island. The only likely source was the Economic Planning Board. The Board was interested in the rising figures for intra-uterine devices (IUDs), but was unconvinced that the program had much to do with economic development, for which its money was intended. They asked for a long-term plan showing how, if at all, public health was related to economic development and where family planning fitted in.

Several months of hard work, under the leadership of the Health Commissioner, produced a 10-Year Health Plan, with family planning an essential part of it. Included were projections of the population if family planning were not undertaken. The difference would be only 606,000 in 10 years; but in 25 years it would be 4,079,000. The cost of educating the children if there were no family planning was eye-opening.

The heart of the proposal was that 600,000 IUDs be inserted within 5 years. This would mean an IUD for each of about one-third of all the married women of childbearing age, including those who would marry in the period. It was computed that 5 IUDs would have to be inserted for each live birth prevented per year. (This took account of expulsions and removals and of the relatively high age of acceptors.) The estimated cumulative reduction by the end of 1970 would be 428,000. By 1973, however, the crude birth rate should fall by slightly more than a third: from 36.3 to 24. The natural increase was expected to drop by 1973 from 3 percent to 1.9.

It was emphasized that the cost of US\$1.5 million for 5 years was lower per million population than for Korea. It amounted to only US\$2.50 per IUD inserted or US\$0.025 cents per capita per year. This was possible only because the couple paid half the cost of inserting the IUD. If they used traditional methods, they paid the whole cost of supplies.

The results were prompt and startling. The Planning Board began to ask more questions of the Population Studies Center, especially about the projections for school children in future years, and about the rising costs. It even asked why the 600,000 IUDs could not be inserted in less than 5 years.

By the middle of the year, the Board had agreed in principle to consider a plan for NT\$60 million to cover present costs plus expansion for 5 years. The request included the proviso that the NT\$18 million for IUDs be payable whenever needed, and not on a fiscal-year basis, in order to permit speeding up the work as quickly as possible. However, many technical and legal questions remained to be solved.

Results

The new plan called for 50,000 IUDs to be inserted in 1964. To do this 140 more workers were needed at once. They were advertised for, and 61 were selected, but there was still no cash to pay them. Finally, in October, funds were advanced. An additional 101 workers will be hired and trained in the first quarter of 1965.

In the meantime, the Population Studies Center was making a series of small studies on how to make the workers more efficient. In one test, increasing the number of small group meetings, for example, tripled the number of IUDs in a month even with less home visiting. Calling first on mothers with 3 or more children helped the figures to mount. The payment of the equivalent of US\$0.25 each to anybody who referred a case brought results. (The winners were the door-to-door salesmen and saleswomen so common in Taiwanese villages.) Most important, the work speeded up as more and more satisfied customers spread the word to their friends and neighbors.

Nevertheless, the figure for IUDs dropped in November. This may have been partly due to the rice harvest, but probably to the first eager cases dwindling where the work had been going on for many months and not enough new townships started with workers settled in and doctors ready. In December, however, the figure rose from 5,490 in November to 6,822. The total for the year was 46,449 against the target of 50,000.

In addition, about 65,000 names are on the active list for traditional contraceptives. This list is more important than before. Previously, a PPH field worker with a case load of 400 to 500 couples had little time to find new cases, which over 4 years had dropped from 20 a month per worker to 10. Now with the rapid shift to IUDs (though less so than in Korea), the new cases per month per worker are back again to 20.

The outlook for 1965 is far brighter than it was a year ago. Money is available, and orderly plans can be made.

Personnel

It is recognized that further expansion depends largely on having from 1 to 3 doctors in every township trained to insert IUDs. (At present, 221 townships are without them.) Candidates are being selected and there should be about 400 trained by June 1965.

It is hoped that the experience with general practitioners will be so successful that the decision will follow to allow the health station doctors to insert IUDs, too. Many of them are keen to do so, and their inclusion would add some 300 doctors to the corps of workers. This, however, would put government employees openly in the business of inserting IUDs. If the program is to be accelerated, this needs to be done. Whether it will be done in 1965 depends largely on whether the public response continues to be favorable.

The selection of the workers to fill the remaining posts has led to some reflections on the types of persons already hired. A recent study suggests that the best worker is likely to be more than 25, married and with 2 or 3 children, and preferably but not necessarily trained in nursing or midwifery. It is essential that she have a good approach to people and better if she has had 2 years or more on a job where she had a chance to practice it. Above all, she must be a hard worker. The workers recently hired have easily qualified academically but have usually been single girls recently graduated. (These are easiest to find and ready to try anything.) The only result of the review was the decision not to hire anybody under 20 and to lay more stress on the ability to meet people easily.

Training has varied from 2 weeks to a month, with different combinations of class and field work. Obviously, the girls with no background in nursing need more information about the process of reproduction; but all get the same training.

Most important is supervision on the job and occasional meetings of workers to share experience and to get tips on how to solve new problems that are constantly coming up. This is done by having quarterly 1-day sessions and a 3-day seminar at least once a year. On these occasions, new equipment is explained and new supplies issued.

The ratio of workers to the population in Taiwan is less than half that in Korea. Success, therefore, depends on finding out quickly what are the most efficient ways of recruiting new cases and putting the improved methods into effect promptly. Fortunately, the Population Studies Center is spending much of its effort on this problem. In the first stage of the plan it seems clear that more group meetings with women over 30 is likely to be the quickest way to get a large number of satisfied users who will be the best saleswomen. As this group gets smaller, the stress will have to be more on spacing children than stopping having them. But, that moment is still a year or 2 away.

Future Prospects

At the beginning of 1965, the rate of IUD insertions is about 7,000 a month. The Army and Navy have recently sent their specialists to be trained and may add another 1,000 or so cases a month. The private Family Planning Association, with its many valuable contacts, especially in industry, will be a part of the big plan. To reach the target of 100,000 IUDs in 1965, however, the monthly rate will have to rise more than 20 percent above the December achievement. An average of 10,000 IUDs a month seems definitely possible.

The target of 150,000 IUDs for 1966 should be possible: the doctors will be trained and the workers will have gained in experience. The same target in 1967 will probably be more difficult as the approach turns toward younger women who need to be taught spacing. Chinese wives now seem to like to have their children early and get it over with.

Taiwan's program, with notable progress in spite of no stated national policy, makes it a "natural" as a demonstration program. Foreign visitors, including more and more who see the intimate relationship between family planning and community and economic development, are coming to see what is happening on Taiwan. These visitors sometimes are as many as 100 a month. Groups for observation and training have come from Korea, Thailand, and the Philippines. If there is demand, facilities for more orderly and extended training should be developed.

Some Lessons Learned

1. The rapid expansion of the programs in both Korea and Taiwan proves pretty conclusively that the desire for large families is rapidly fading. Nearly 90 percent of couples interviewed say they favor family planning. They say that they want less than 4 children but have more than 5.
2. The typical couple do not know what to do and are eager to learn. There are, however, many steps between saying one is in favor of family planning and doing something effective about it.
3. The main problems are how to get the money and how to get the work organized. A national policy helps greatly to get the money and to get things done; but comparable results can be got without one if money and imaginative leadership are available.
4. The method used must be convenient, effective, long-lasting, very cheap — and preferably without recurrent costs. The one most acceptable now is the Lippes IUD.
5. Essential for success are a large number of satisfied users. It is, therefore, best to concentrate first on families with 3 or 4 children and at least 1 son. In the second stage of the program, however, this group will be largely exhausted, so that the emphasis must increasingly be on spacing children rather than stopping having them.
6. As the program gets accredited, the field workers can save time by having more group meetings.
7. Discussions with the family should not be in terms of the dangers of overpopulation but in those of the family's own welfare. References to the Confucian ideals of happiness, long life, and prosperity interest families; talk about national economic problems from overpopulation does not.
8. The program must constantly be reevaluated and the findings applied promptly, in order to get more results with the money available, which is always too little.

THREE RECENT WORKS ON POPULATION AND DEVELOPMENT

Ronald Freedman (ed.), Population: The Vital Revolution, Garden City (N. Y.), Doubleday and Co., 1964, US\$1.25 (paperbound) and Chicago, Aldine Publishing Co., 1965, US\$5.00 (hardbound), 274 pp.

This book can serve as a useful introduction to population topics and their present relevance to economic and social development. It derives from a series of lectures prepared for the Voice of America in 1963 by 19 American experts. The purpose of the endeavor, as the editor states, was "to acquaint an intelligent world audience of non-specialists with some of the best current scientific knowledge and opinion about population trends." In this, the book succeeds admirably. The articles that compose it present the ideas of their authors readably and without the incumbrances of technical scholarship. Some articles deal with aspects of the "revolution": world population trends, population and economic growth, theories of demographic transition, age composition, urbanization and migration; others discuss population issues for geographical areas: the United States, the developing countries, Latin America, India, Africa, Japan, mainland China, the Soviet Union and Europe.

A review of this, or of any other book in the field of population must recognize that the field is in a state of rapid change. Even since 1964, there have been substantial modifications in attitudes toward population control, in the less developed countries and in the U.S. alike. Moreover, contraceptive technology and the organization of family planning programs have changed radically. To keep abreast of advances in these areas, one must read articles and conference papers like those presented in Belgrade and Geneva. However, most important

population issues have not sprung into existence full blown since 1964, and Population: The Vital Revolution provides a handy guide.

James W. Brackett and Donald S. Akers, Projections of the Population of Pakistan, By Age and Sex: 1965-1986; A Measure of the Potential Impact of a Family Planning Program, Washington (D. C.), U. S. Department of Commerce, Bureau of the Census, Foreign Demographic Analysis Division, 1965, single copies upon request, no charge, 63 pp.

Edgar M. Hoover and Mark Perlman, "Measuring the Effects of Population Control on Economic Development (Pakistan as a Case Study)," a report prepared for the information of the Advisory Committee to the Director of the Agency for International Development, Washington, AID, Office of Technical Cooperation and Research, Population Reference and Research Branch, 1965, no charge, 33 pp.

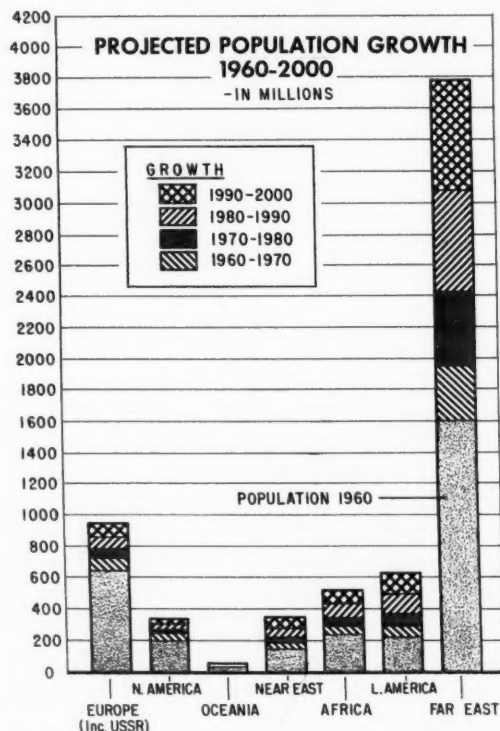
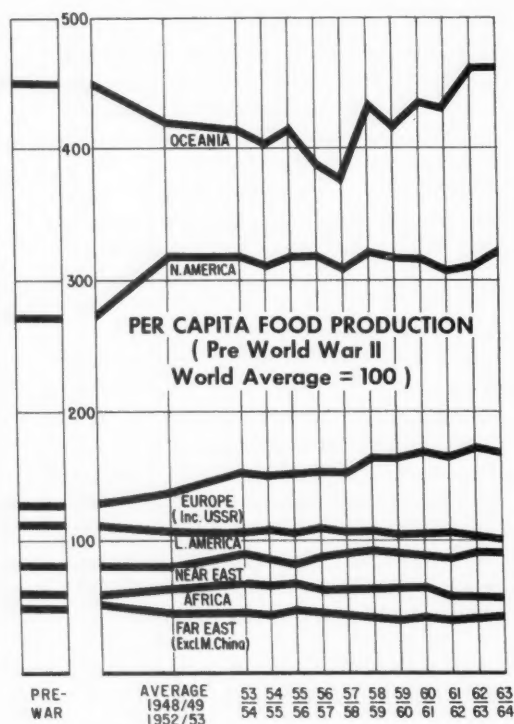
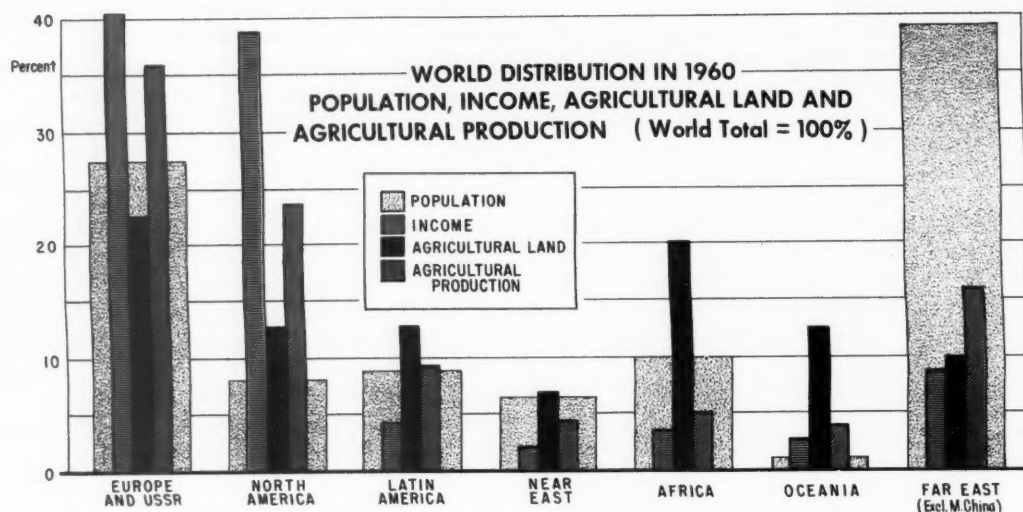
Recent research sponsored by the U. S. AID concerning population trends in Pakistan is indicative of an increasing interest in the role population plays in economic development. Projections of the Population of Pakistan was prepared under the auspices of AID as a pilot project in its program to study the relation between population growth and economic development. The projections seek to improve on techniques previously employed to determine the size and other characteristics of the population in 1985 under varying assumptions. The most notable projections are those assuming declining mortality and either a continuation of present fertility or declining fertility as a result of the successful implementation of Pakistan's family planning program. If the goals of this program are met, by 1972, half the fertile couples in areas served by clinics would be practicing family planning, and of these couples, half would be doing so effectively. Implementation or nonimplementation of this program will result in an estimated difference in population of 30 million by 1985.

The Hoover-Perlman report, also part of the AID pilot project and based on its data, relates the population projections to the economic growth projections of the Pakistan development plans. There are two major projections. One assumes the figures given in the Perspective Plan for foreign aid and the efficiency of capital. It then projects the figures for per capita income in 1985 that result from different assumptions about fertility and mortality trends. Local savings and investment are affected by size of population. When it is assumed that mortality will decline, present population growth rates would lead to a GNP per capita 12 to 16.7 percent lower than what would have been achieved with a successful family planning program.

The second projection assumes that the nation would be content with the rather modest rate of growth of GNP per capita which the

Perspective Plan implies in the absence of family planning. The authors estimate the amount of capital imports necessary to attain this modest growth under different assumptions about fertility and mortality. With success in family planning, according to the authors' projection, Pakistan could achieve this growth rate, and forego foreign aid by 1985, and indeed, could even become a capital exporter by that time.

RESOURCES AND POPULATION GROWTH



(ADAPTED FROM MONTHLY BULLETIN OF AGRICULTURAL ECONOMICS AND STATISTICS, VOLUME XIV, NUMBER 7-8, JULY - AUGUST 1965)

PLANNING: THE EDUCATION SECTOR

MAJOR TASKS FACING EDUCATIONAL PLANNING

Philip H. Coombs

[From "What Major Tasks Face Educational Planning in the Next Decade?, " UNESCO Chronicle, UNESCO, Paris, Volume XI, Numbers 7-8, July-August 1965, US\$0.20, pp. 259-266.]

[This paper is based on an address given to the Fourth National Conference of the Canadian National Commission for UNESCO, Montreal, 9-12 March 1965.]

These are excerpts from the article.

As part of the broadened changes that have been sweeping the world in the last two decades, a far-reaching educational revolution has got underway. I should like to focus my comments on two important questions. First, what progress has this educational revolution made thus far and what problems have arisen? Second, in light of the experience to date, what are the major tasks for educational planning in the developing countries in the years immediately ahead?

Needless to say, my observations must be tentative and impressionistic and they do not apply uniformly to every developing country. It should be

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borne in mind, moreover, that whatever has happened in the past ten years has, by and large, not resulted from educational planning, for most developing countries are only now getting firmly started on educational planning, which takes time. Indeed, some of the serious problems encountered in past years show why strong educational planning is needed. Thus, the real test for educational planning is in the coming years.

Progress in the Past Decade

Looking first to the past, we can say that the most striking feature has been the enormous increase in enrollments, especially at the primary school level, and the equally striking increase in educational expenditures in many developing countries, not only in absolute terms, but as a percentage of total public expenditures and of total national income.

This, of course, is because these nations are endeavouring to move from an earlier vest-pocket educational system, which served only limited purposes and a lucky minority, to a full-blown educational system designed to serve the whole population and the full gamut of national development needs. This is a goal which more advanced countries have been pursuing for a century or more, and have not fully achieved yet. These developing countries, understandably, are in a great hurry; they reckon in years, not in decades.

To cite a few concrete examples of these increases: elementary school enrollments in Latin America rose from 14.3 million in 1950 to 24.8 million in 1960 — an annual increase of more than 11 percent — and in six countries they more than doubled in a decade. University enrollments in Colombia, for example, have doubled in 8 years, while in Venezuela the number of university students shot up from about 10,000 to 35,000 in only 5 years, from 1958 to 1963. The expansion in Africa, which of course began at a lower level, has been even more dramatic. Elementary enrollments in Nigeria, for example, trebled from 1950 to 1962, while university enrollments, small to start with, rose tenfold. India, of course, is the giant illustration. Elementary enrollments rose there from under 19 million in 1950 to over 50 million at present. University and other post-secondary enrollments in the last five years alone have risen some 60 percent. Meanwhile, the proportion of India's total national income spent on education has gone up from 1.2 percent in 1950 to at least 3 percent now. The goals presently projected in India's perspective plan include a trebling of elementary education by 1975 over 1961, a fourfold increase in secondary education, and a three and one-half fold increase in higher education. This would carry the percentage of national income spent on education to 4.7.

Yet it is important to remember that this world-wide tidal wave of educational expansion does not result simply from decisions by political leaders that more education would be a good thing for their country. Fundamentally, it is the product of widespread popular demand; education is seen by the impatient masses, long at the bottom of the socioeconomic league, as the upward ladder for their children. For them, freedom and democracy mean the promise of educational opportunity; not eventually but right away.

This popularly ignited educational explosion is feeding upon itself. Bright youngsters of illiterate parents who finish primary school want to push on to the next level, and the graduates of secondary school are ambitious for a university degree. Sharply rising population curves have added greatly to these pressures of popular demand. Because of the rapidly growing child population, many countries must run fast educationally just to stand still. The complications which the population boom imposes on education can scarcely be exaggerated.

Three Important Problems

These impressive increases in enrollments and in educational effort are indeed encouraging, but they must not be allowed to conceal some equally impressive problems and shortcomings if the future is to see even greater progress. These problems and shortcomings must now be dealt with firmly and courageously, or the statistics of expansion may prove a great illusion. They can be summarized in terms of three basic imbalances.

The first imbalance is between the educational system's output and the development needs of the nation. One form which this imbalance takes is a mismatch between the pattern of manpower skills and specialties turned out by the educational system and those required for economic growth. Village education, for instance, is often ill-suited to the individual needs of rural youngsters and to the requirements of improved agricultural productivity and overall rural development; in some cases the kind of education given may even prove counter-productive to national development. Similarly, the complaint is widely heard that urban secondary schools are turning out too many young people with an old-fashioned preparation for university entrance, and too few who have had terminal programmes which equipped them for middle level technical work required for economic growth. There are similar maladjustments at the university level; over-production of lawyers and arts graduates, for example, and under-production of scientists, engineers and other technically trained persons needed to modernize the economy.

Beyond these more specific mismatches, and perhaps more serious and perplexing, is the growing phenomenon called "the educated

unemployed" which, at least superficially, appears to result from a lag between the creation of new jobs and the rapid expansion of educational output. In fact, of course, this phenomenon does not necessarily mean that the country is getting too much education; neither the explanation nor the cure is that simple. But it does, nevertheless, represent a potentially serious social problem to which solutions must be sought.

The second imbalance is within the educational system itself — between the different levels, which have been growing at different rates, and between the demand for and the supply of teachers. In many countries priority has been given to expanding elementary and university education, both having great popular appeal, while teacher training and secondary education have been neglected. The result, of course, is that the elementary schools find themselves without qualified teachers, universities without enough qualified students, and employers without enough well trained middle-level manpower. By now a number of countries are trying to correct this imbalance, but it is difficult to reverse the momentum generated by their earlier popular priorities and lack of planning.

The third and most pervasive imbalance is between the scale of available educational resources and the scale of educational expansion. Inadequate resources have been spread so thin that quality has suffered severely. The old educational status quo — which in many respects is now the wrong educational system to fit the new needs and scarce resources of these countries — has been left largely unchanged; it has mainly been made bigger.

It is not entirely correct, of course, to say that there have been no important changes; there have been some new additions to the old system, particularly in science and technology at the secondary and higher levels and in forms of teacher training. Foreign aid has contributed much to these innovations; sometimes, however, including new imports of old foreign models that do not fit the recipient's conditions very well, though they may nevertheless have had a useful tonic effect. Overall, however, the dead weight of the old curriculum, structure, methods and procedures still tends to dominate the situation.

A candid recognition of these problems is essential to correcting them, but it should not be allowed to distort our perspective, for the fact remains that very substantial and heartening educational gains have been made, and a powerful momentum has been established which can, if properly channelled, help to overcome these deficiencies in the future. It is inevitable in a period of rapid change and expansion that many dislocations, transitional inefficiencies and unsatisfactory results will occur. This is precisely why it is now so important that

educational planning be strengthened with a view to overcoming these defects and achieving a more orderly expansion from here on.

Let us turn our attention, then, to the more specific implications of all this for educational planning, to the question of what its priority tasks must now be, and to a consideration of what kinds of strategies might be appropriate.

The Tasks Ahead for Educational Planning

Educational planning must be concerned with much more than making statistical projections and promoting a larger version of the educational status quo. Its four priority tasks in the coming years, I suggest, are the following.

The first task is the better integration of education with the major needs of economic growth and social development. This will require deeper analysis of prospective manpower requirements, not only on a national scale but more particularly in various sub-regions and major labour markets, and not least of all in the agricultural and rural sector. It will also require a substantial recasting of educational programmes and structures to match these requirements better, and greater efforts to inform parents and guide students so that their educational and vocational choices will be brought into closer harmony with the realistic needs of national development and their own best interests. Every effort must also be made, inside and outside education, to adjust employment attitudes and practices to the larger flow of educated young people, to create more job opportunities and to break down psychological and institutional barriers to labour mobility.

The second task is a more balanced and selective expansion of the educational system. The quantitative expansion of the past cannot and should not be stopped in its tracks, but it must be brought into a viable, sensible relationship to available resources. The aim now should be to bring the different levels and the different programmes — such as general education and technical education — into better balance with each other and with the realistic needs of society. Greater emphasis in this expansion should be given especially to programmes of pre-service and in-service training of teachers and educational administrators, and to enlarging the supply of good textbooks and other teaching materials so that well motivated students can learn a good deal for themselves.

The third task — and the most crucial — is the energetic inducement of essential changes and improvements of all sorts within the educational system. These changes must be far reaching; they should comprehend the structure, content, teaching methods and materials, physical plant and equipment, admission standards, and organizational

and administrative arrangements. They should aim at raising quality, efficiency and effectiveness; some will cost more while others will save money. These changes and aims are essential in their own right, but they are also tactically essential if education is to justify its claim for getting still larger resources. It must be kept in mind that the education sector of society cannot go on indefinitely getting an expanding proportion of the Gross National Product and of total public funds, though there is no simple formula for determining the "right" proportion. In any event, the road to progress lies not simply in spending more on education but, equally important, in utilizing more effectively the resources already being spent.

The fourth important task of educational planning, I suggest, should be to strengthen education outside the classroom. By this, I mean all those things that are often lumped together — some much more important than others — under the ambiguous label, "adult education." The developing countries suffer seriously from the sharp dichotomy traditionally made between "formal education" and all other organized forms of training and education, many of which are just as important to national development as what goes on inside the schools and universities. This includes, for example, agricultural training and rural youth programmes, part-time and on-the-job technical training designed to upgrade workers, self-improvement courses for government workers, and programmes for young mothers. In many instances, these types of training and education can be efficiently tied to the formal system, for example, through part-time and correspondence courses, and through the direct involvement of agricultural, engineering and teacher-training institutions in extension services. For nations at an early stage of development, these types of activities can often give a quick and relatively inexpensive boost to national development — if they are carefully selected, planned and operated.

The Strategy of Change

The sweeping internal educational changes implied by the above four tasks, as we all know, will not come easily. This is not simply because educational systems by their very nature are resistant to fundamental change. An equally important reason is the sheer logistical complexity of educational change. Like agriculture, education is a large industry of small and widely dispersed units, run by thousands of "operators" (in this case teachers and administrators). To achieve a widespread change of standard practice requires communicating with them, and somehow persuading, retraining and assisting them (and often the parents and students as well) to accept new practices and apply them effectively. In other words, educational change itself requires a major educational effort.

The most fundamental obstacle to educational change is the absence of sufficient institutional mechanisms within the educational system whose prime business it is to change and improve the system — to evaluate old practices critically, to develop new and better ones and to persuade and assist the far-flung "operators" of the system to innovate — as is done in the more dynamic industries as a matter of course. Priority should therefore be given to creating such mechanisms, and to modernizing clumsy and outmoded administrative rules and arrangements. This too will not be easy.

A good starting point, I suggest, might be to create at the top of each ministry or department of education, at every governmental level, and perhaps in each university as well, two new staff units. One might be called the Performance Appraisal Unit. Its job would be to apply critical analysis to the ongoing educational process.

The second new unit would be the Research and Development Unit, which would take a somewhat deeper and longer range view. It would devise a well conceived strategy of research and experimentation, aimed at improving education at the most promising and critical points.

As these two new units gathered momentum and came up with significant findings, a third new unit would be needed — the Educational Extension Service — to carry news of these new findings and developments directly to the thousands of teachers and administrators who alone can put them into practice.

Educational planners should take the lead in encouraging such new mechanisms for change, in identifying the places where change is most needed and most promising of significant results, and in seeing that adequate resources are made available for the basic improvement of education through critical self-analysis, research and experimentation. The planners cannot themselves do all these things. They have neither the time nor the qualifications, but they can support and, if need be, prod others whose immediate responsibility it is to improve each part of education.

The four major tasks of educational planning mentioned earlier, and these specific steps toward accelerating change, must be placed within a well conceived overall strategy that provides a clear sense of direction, a rational basis for allocating resources to different educational purposes, and the guidelines for integrating education with society's priority needs. Within a broader perspective of this sort, the essential interconnexions between education and the needs of economic growth and overall national development will be kept more clearly in view.

But concepts on paper, of course, are only the beginning; they must be undergirded with more efficient administrative machinery for implementing them. Until these various internal changes and improvements in education occur on a much broader scale, and until educational systems tool up more effectively for self-renewal and advancement, the great educational revolution of this new era will not come of age.

Miracles should not be expected of educational planning, but it can produce far better results than would occur otherwise. Educational planning, after all, is simply the application of rational analysis, common sense, and a broader and longer range perspective to the essential business of developing a nation's human resources.

On balance, one can take encouragement from the serious efforts being made today by the majority of developing countries to establish an effective process of educational planning, but success is not yet assured. Whatever the more developed countries can do to help in this endeavour is bound to bring high rewards — not only for the recipients but for the donors. For most of what can be said about the future priority tasks and strategies of educational planning in the developing nations applies with equal force to the more advanced ones. Because of the vast changes that are shaking and reshaping the world today, every nation, whatever its level of economic development, finds itself educationally underdeveloped.

THE FUNCTIONS OF COST ANALYSIS IN EDUCATIONAL PLANNING

Raymond F. Lyons

[From "The Role of Cost Analysis in Educational Planning," Problems and Strategies of Educational Planning: Lessons from Latin America, Paris, UNESCO, 1965, US\$3.00. Also published in Spanish.]

This is a reprint of most of the paper.

Cost analysis is a vital element of educational planning in three important respects. It must ensure, first, that the total cost of educational expansion as laid down by the plan is realistic, having regard to other objectives of national development; second, that the structure of expenditure as between the different levels and types of education corresponds to national needs; and, third, that the detailed allocation of funds as between the different productive elements of the educational system — teachers, buildings, equipment, etc. — is consistent with the most efficient use of money and educational resources. Let us look more closely at each of these three functions of cost analysis.

The Total Cost of Educational Expansion

Educational plans cannot be formulated in a vacuum since they involve a significant proportion of national resources. It is therefore essential to examine not only whether the bill can be met, but whether, having regard to the needs of other sectors of social and economic activity, the bill can be

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justified. A target of 4 to 5 percent of Gross National Product is often advanced as a suitable expenditure on education in a developing country, but such a target may represent the equivalent of one-half of the resources available for net fixed investment. There is therefore a real choice to be made, at least as far as government expenditures are concerned, between education, health, housing, defence, infrastructural investment (roads, railways, docks) and direct investment.

Such a choice is the very essence of planning: the claims of education are set against those of other sectors within the framework of an overall national plan. But, in some Latin American countries, educational plans are drawn up by ministries of education without much thought being given to overall needs, social as well as economic, or even to longer-term objectives and the means of reaching them. Where population growth is rapid and education has become a major political issue, expenditure on education will rise in any case, but it is better that it should rise as part of an orderly planning process rather than as a result of the hurly-burly of political bargaining and impromptu financial decisions.

Much work still remains to be done before the macro-economic and budgetary aspects of education can be fully taken into account in planning. The initial requirement is to define the scope of educational expenditure, i. e., first, to know what should be included under the heading of education; second, to determine what public and private bodies are responsible for educational expenditures and what their respective shares are in total expenditure; and, third, to ascertain the detailed cost components of these expenditures by level and type of education. This information is vital for readjusting educational plans in the light of available funds. An accurate regional breakdown of total educational costs may be particularly valuable, because it can serve as a basis for equalizing educational opportunities in the country as a whole, and for promoting types of education which are deficient in individual regions, but important for national development. This is particularly so in the case of skilled and highly skilled personnel, the market for which is normally a national one.

The Structure of Expenditure

There is no virtue in devoting a high proportion of total resources to education if this education does not fit the needs or the conditions of the country and if a large part of the increased resources goes to waste. In countries where the Gross National Product and employment are static, there is a risk that a rapid rise in educational expenditure will produce waste in the form of intellectual unemployment. In one Latin American country, which is a case in point, there are two administrative officials and one auxiliary employee for every full-time secondary school teacher. Clearly, educational planning must be

linked with employment possibilities and should accompany measures aimed at economic development. While primary education will be governed largely by population growth, with due regard to the resources available, secondary and higher education should be planned to a large extent on the basis of the qualification structure which the country is likely to require in the target year, i. e., ten or fifteen years hence.

A close examination of educational expenditure by level and type of education can provide a useful guide to policy. In the Latin American countries, for instance, about half of all educational expenditure goes to primary education and, in terms of cost per pupil, primary education is cheap. In reality, it is expensive, because only a small fraction of those initially enrolled complete the full cycle of "compulsory" education. There is great scope for increasing the effectiveness of primary education by a detailed study of expenditures and the educational results obtained from them.

Expenditures per pupil rise steeply when the educational scale is ascended, and it is no accident that education in Latin America is weighted in favour of subjects other than scientific or technical much more markedly than in the advanced countries. This is due not only to the degree of economic development, but also to the higher cost of scientific and technical education as compared to other types of education. The emphasis on the latter to the detriment of the former will be reflected in the structure of educational expenditure.

In Latin America, the analysis of the structure of expenditure in higher education is complicated by the fact that universities are, in general, autonomous and often private institutions. It is therefore necessary to determine, first, the direct total public expenditure on state universities, second, public expenditure in form of subsidies to private universities, and third, total private expenditure on higher education. The detailed examination of these data can provide information regarding the cost per pupil and per graduate in the different types of institution. One major policy issue which can be clarified by such an examination is the extent to which it is desirable to subsidize higher education for a narrow section of the population which, in many cases, is well able to pay for it. As public funds are limited, certain choices have to be made, not only as between the different levels of education, but also within each level, and these choices must be governed by the objectives to be reached. One of these objectives is, or should be, that young people who are gifted should have access to higher education, and this can in certain cases be ensured most effectively by a system of fees and subsidies — fees for those able to pay, subsidies for those unable to pay for their education.

The Production Costs

As already mentioned, there is little point in expanding an educational system which is ineffective and inefficient; the weaknesses must be remedied. Educational planners and educators attach, therefore, much importance to the quantitative expressions of qualitative factors in education. A detailed study of costs must form an integral part of any sound approach to the question of educational efficiency.

As teachers' salaries constitute the main element of current costs, it is clearly important to consider how the returns on this expenditure could be maximized. Is it more advantageous to use part-time teachers — as is often the case in Latin American secondary and higher education — or better paid full-time teachers, — more advantageous, that is, in terms of the educational survival rate, for instance? How long should teachers work before they retire? In one Latin American country the answer is 15 years! What are the inducements, in terms of salaries and fringe benefits, for the different levels and types of qualified teachers? What are the most effective ways of using qualified teachers and of supporting their work by less qualified personnel, having regard to relative costs and educational requirements? To what extent are teaching aids justified? Clearly, if teachers are cheap and effective, it would not be sensible to buy a teaching aid whose cost represents, say, ten times the yearly salary of the teacher. Similar questions arise with regard to books and equipment. Such questions can be answered, at least partly, by cost analysis.

Then there is the question of relating the cost per pupil to the effectiveness of education, or rather to its efficiency as expressed by the educational survival rate. What are the costs involved in reducing failure, drop-out and repeats? The answer may lie in subsidies, improved transport, school meals and medical services which, while raising the cost per pupil, contribute to raising the educational survival rate and thus reducing the cost per graduate.

As far as capital costs are concerned, school buildings represent by far the most important element of expenditure, and their cost, location, functions and structure deserve close scrutiny. This applies in particular to the replacement of one-teacher schools in villages by multi-teacher schools in small towns linked by transport to the villages. It is also necessary to define, by common agreement between educators, architects and economists, the desirable functions of educational buildings, and to work out the consequent specifications and costs. Substantial savings can also be made in the number of buildings by a careful study of the distribution of the population of school age and the consequent siting of educational institutions.

Lastly, a word should be said about the importance of programming educational investment expenditure. Faulty programming can lead to waste and losses due to delays and lack of coordination. Sound budgeting and programming of expenditure, and cost analysis, in general, are still insufficiently appreciated in many countries. Though encouraging progress has been made in this field, great benefits can still accrue to educational planning from a further development of cost analysis and of the statistical information on which it must be based.

PLANNING RURAL EDUCATION
FOR DEVELOPMENT: LESSONS
FROM LATIN AMERICA

[From Problems and Strategies of Educational Planning: Lessons from Latin America, Paris, UNESCO, 1965, US\$3.00. Also published in Spanish.]

Excerpts from Seminar papers begin on the following page.

[The Seminar, "Problems and Strategies of Educational Planning in Latin America," brought together almost 100 experts (over half of them from Latin America) to discuss Latin American education at UNESCO Headquarters in Paris from April 6 to May 8, 1964. The Seminar was conducted by the International Institute for Educational Planning (IIEP), a semi-autonomous body financed by UNESCO, the International Bank for Reconstruction and Development and the Ford Foundation.

One of the dominant themes touched upon by a number of the speakers at the Seminar was the urgency of making extensive changes in rural education in order for it to play a more dynamic role in the modernization of agriculture and of the economy as a whole.

The excerpts that follow indicate the often contradictory viewpoints of speakers grappling with the problem. All are from Problems and Strategies of Educational Planning: Lessons from Latin America, which contains many of the most significant papers presented at the Seminar.]

In summarizing the major concerns of the Seminar, Guy BEN-
VENISTE, Senior Staff Member of the IIEP, stated,

"The adaptation of education and training to the changing needs of rural areas is just beginning to be recognized as a major problem, and it has become clear that present concepts of rural education are no longer valid.

"Some difficult questions were raised during the discussion. Could planners, who are usually well informed about urban problems but rarely knowledgeable about rural ones, master the educational problems of rural areas? How can the content of rural education be re-oriented without creating unequal opportunities as between rural and urban areas? How different are the educational needs of rural areas from those of urban areas at a time when most countries are experiencing a profound transformation from a basic agricultural economy to an incipient industrial economy? What can be done to upgrade the quality and training of rural teachers? And what is the role of the rural teacher in a society which is experiencing a transition from traditional to modern ways?

"The Seminar provided fewer answers than it raised questions. But it reached three important conclusions:

"First, there is an urgent need for much more research and experimentation on new forms of rural education for both adults and children, and the universities should play an important role in tackling this problem.

"Second, it is not enough to plan in terms of national aggregates only, and to disregard such problems as those of the rural areas. The needs of rural education vary from region to region depending on cultural, ethnic, social and economic factors, and educational planning must be closely related to regional planning.

"Third, the planning of rural education should not be limited to education for children. In the rural areas the school is usually the main instrument for education and training. The education and training of adults is certainly as important as the education of children. The allocation of scarce financial resources for education and training in the rural areas should reflect these twin needs and the possibility of using schools and teachers for adult education should be considered."

The eminent Oxford economist, Thomas BALOGH, called for an attitude toward rural education freed from the shackles of "classical" European educational thinking which viewed government as,

"founded on a principle of maintaining religion, morality, law and order, without more than the provision of a negative framework for the economic activity of private enterprise. This blind imitation of Western European ways is perhaps the greatest obstacle to educational reform in developing countries. In Algeria, for instance, three universities and a college of higher technology are being created, but it has not been found possible to create a popular agricultural university. In Cuba, a literacy campaign was launched, when training of agricultural experts was the thing most needed. The United Kingdom could do, until recently, with two television channels, with a third now being hesitantly installed; but Lima in Peru has four television channels and twelve radio programmes, none of which are used for educational purposes. In the matter of education, people seem to have completely lost their sense of proportion and of reality.

"In the conditions in which the developing countries, those of Latin America, in particular, find themselves at present, to think of a system of education which is classical in its form and based on that of the most advanced countries in the world is to accept the shocking fact that the bulk of the population will be altogether excluded from education of any sort. An educational policy compatible with human dignity — and economic needs — in Latin America can only be evolved by giving up any idea of doing it in a classical style. It has to be something completely new and, to a very large extent, self-financing, — something which demands an attitude completely different from past attitudes. The problem for Latin America is not to produce geniuses capable of extending the frontiers of knowledge, and devoting to that purpose scarce resources; it is rather to have an education system capable of inculcating people's minds with the simple knowledge of agriculture and biology as of 1910! You could then double, treble and quadruple agricultural output.

"There is little doubt that great benefits could be derived from the example, not of Western European countries today, but of the United States in the nineteenth century, by introducing into elementary education a strongly vocational bias toward improved agricultural techniques. Once land reforms have been accomplished, schools ought to become centres for agricultural renaissance. Educational programmes should be closely linked with rural change and the modernization of agricultural production, including marketing and credit. Subjects such as elementary biology, soil chemistry and use of implements must be given an increasingly important place in the curricula of rural schools. Not only is it essential that schools should have adjacent land on which the children can be educated in more effective methods of production, but it might be a very great advantage if the schools could, to some extent, be self-supporting."

Rural School Curriculum

The question of the curriculum for rural schools most suited to a modernizing country proved a difficult one. Since so many of the rural children of today must find urban jobs tomorrow, their education must prepare them for the world of the city. On the other hand, the other rural children are the base upon which a modern and rationalized agriculture must be built. The dichotomy of these needs brought up some diverging viewpoints. Alvaro CHAPARRO, of the Rural Institutions and Services Division, Food and Agricultural Organization (FAO), was concerned that rural schools teach adequately about agriculture. In his paper "Education and Training for Agricultural Development," he comments,

"The primary role of agriculture and rural life in developing countries means that education and training in food and agriculture should receive the required priority in educational planning. The agricultural orientation of rural primary schools is sometimes viewed as an adaptation of the rural child to his environment, and of education to real life. On the one hand, such education would contribute to keeping rural people on the land. On the other hand, some of it would, in fact, be useful to any child, regardless of his future occupation.

"It is often believed that migration from rural to urban areas is due to insufficient or faulty education in rural primary schools. In fact, it is the result of social and economic forces beyond the control of the school. Rural youth organizations, initiated in many developing countries by the agricultural extension services, provide a practical education to rural children leaving primary school and having no other educational opportunities. Their programs concentrate on the living conditions of their members and they may influence rural children from 12 to 18 years of age. The need is for new methods and approaches in line with the needs and problems of adolescents in developing rural societies, not for copying those that are suitable for the youth of developed countries."

A view that primary schools are not suitable vehicles for agricultural education was strongly expressed in "Some Notes on Rural Educational Policies," read by Marshall WOLFE, Acting Chief, Division of Social Affairs of the UN Economic Commission for Latin America (ECLA).

"Any extensive reliance on agricultural education at the primary level would encounter the following difficulties:

"a) Whether or not there is effective agricultural development, the demand for agricultural labour cannot be expected to increase

at a rate matching the increase in rural population. One-third to one-half of rural children can be expected to move into nonagricultural occupations. The really relevant task of rural schools will thus consist in preparing them for life in the national society and giving them a basis for further education or for training on the job.

"b) Within the group that will remain on the land, the main long-term needs are not for the kind of simple agricultural instruction that can be given at the primary level. In rural societies divided between workers on the traditional haciendas and small property owners, such education would be quite irrelevant. If agricultural development will consist, as it should, in an increase in the number of economically viable family farms, on the one hand, and a modernization of the large estates, on the other, the need will be for rural workers able to operate machinery and capable of assimilating new techniques from writings, broadcasts and demonstrations. For these purposes, the primary school should provide, not agricultural instruction, but functional literacy, some acquaintance with mechanical principles, adaptability to technical change and progress, and an appreciation of the sources of information.

"c) The rural teachers are not qualified, at present, for the minimum tasks of primary education, and training them to become effective teachers of agricultural techniques would probably be more difficult and expensive than training an adequate number of agricultural extension workers.

"d) Primary education concentrated on agriculture would meet strong resistance from the rural people themselves, partly because, for the reasons mentioned, they would consider it of little practical use, partly because they would feel that it perpetuated their inferior position in society. To the extent that the rural people now demand education, they see it, first, as a means of defending themselves against exploitation through ability to read, write and calculate, and, second, as a means for their children to escape from agricultural labour. This does not necessarily mean that they want them to escape from manual work or go to the big cities, but rather that they want them to have local jobs requiring mechanical skills, such as bus, lorry or tractor drivers, garage workers, etc.

"In short, rural primary education cannot realistically concentrate on preparing the children to become more productive small cultivators in a static rural society. It should prepare them for an active life, whether in a rural or an urban setting."

The impact of rural primary education on urban development was the concern of José A. MAYOBRE, Executive Secretary of ECLA, in

his paper "The Economic Background to Educational Planning in Latin America."

"Although the present rate of population growth is 3 percent, the rural population, in some countries, is growing very little or remaining stationary. However, for the towns, the rate of increase for Latin America as a whole is 4 to 5 percent. This flood of uneducated rural people into the cities creates extremely serious problems — the stretches of insanitary shanty towns which provide a breeding ground for unrest and constitute a serious threat to society. The economist can see that there is much to be done in the economic field, such as land reform and the provision of employment opportunities, but it is imperative for such efforts to be accompanied by an educational campaign. This is something which educational planners should very much bear in mind.

"The young people who are migrating to the towns must be adapted to the new conditions in which they are going to work, and we are all familiar with the efforts that are being made to provide training for them. But much remains to be done by sociologists, economists and educators in studying the problems of these urban fringe groups, particularly those relating to the education of their children. For us, economists, the way in which this problem is solved will have a decisive effect on future development.

"The question of rural education is no less urgent. What type of education should be given to children in rural areas? Hitherto the answer has eluded us. It has swung from one extreme to the other, from the rural school which was nothing but a copy — a weak and poor one at that — of the urban school to the type of school which was based on the assumption that children in rural areas should be trained for farming, and farming only. Today we realize that children in rural areas must have access not only to rural activities, but also to the urban occupations to which a large number will inevitably shift. The question arises of whether any serious studies are being made in Latin America to evolve the kind of education corresponding to such needs. This is one of the most important problems with which we are concerned."

Post-Primary Education

Seminar participants also thought changes in secondary and higher education would be needed to make education an effective tool for agricultural development. The inadequacy of much secondary school education was noted by CHAPARRO.

"The intermediate-level technicians are often the link between the farmer and the university, between the village and the

government. They are the field extension assistants, the animal health assistants, the forest rangers, the cooperative organizers, the rural social workers and the community development agents whose role in agricultural and rural life could hardly be overstated. And it is probably because of multiplicity of purpose that the education and training of this personnel is often weak and confused. Training for farming, or for a government post in agriculture, or for a job on a private estate, or for entrance to the university, are some of the many purposes of the training institutions at this level. In the end, the institutions often fail to train well for any purpose.

"Training for farming at such a relatively high level in countries where farming is done mostly by illiterate people is certainly an illusion, for none, or very few, of such trainees will go into farming. Training for a government job is a more realistic proposition, as government employment offers the biggest labour market for agricultural technicians and will continue to do so unless agriculture becomes so developed that the supporting private services can absorb a significant number of technicians. Training for university entrance is often advanced as the purpose of intermediate agricultural schools, the argument being that this gives the farm boy an opportunity to enter a university. This argument is also an illusion, if not a fallacy. Most pupils of such schools find their basic training too weak to enter a university; and if the training were reinforced to make it equal to that of general secondary schools, the agricultural training would suffer, with the result that the school would produce poor agricultural technicians. In the end, many of these intermediate agricultural schools, which are run at a high cost because of their boarding facilities, specialized staff and expensive equipment, neither open university entrance to farm boys, nor satisfy the need for agricultural technicians of the right quality in the right numbers."

Although specialized agricultural secondary schools have failed to satisfy a number of critics, there is no doubt that agricultural education at this level still needs to be expanded. As Sylvain LOURIE, of the Institute for Economic and Social Development (IEDES) of Paris, notes,

"In 1960, in 19 Latin American countries, 27 percent of all secondary school pupils were at technical schools, and of these, 4 percent studied agriculture. The very small number studying agriculture is quite inadequate to meet the needs, especially as most of the pupils completing agricultural schools end up in the civil service. It is also worthy of note that, with the exception of pupils at industrial-technical schools (who represent 9 percent of the total), all secondary school-leavers enter the tertiary sector, i. e., liberal professions, commerce, administration, etc."

CHAPARRO stresses the need for university-level education in agriculture which is broad enough that agricultural administrators will have the intellectual tools to help them guide a modernizing agriculture.

"Coordination is easier if all the faculties are in the same campus. But agricultural faculties often tend to be located in rural areas, away from the university campus, as this helps to have the agricultural research facilities and possibilities of practical training. What is lost, however, is the exchange with other faculties and the common use of staff and facilities, and this loss adds to the cost of agricultural faculties. The planners of university education should keep in mind the desirability of locating agricultural faculties so that they can share staff and facilities with other faculties and at the same time have the necessary experimental and research facilities.

"Indeed, an important aspect of coordination is the desirability of offering the student the possibility of studying the economic, social and cultural as well as the scientific and technical aspects of agriculture and rural life. This has led, in some countries, to the creation of rural, agrarian or agricultural universities in which all the subjects applicable to agriculture are organized into an academic curriculum. Educational planners may want to give some consideration to this new development for agricultural education in developing countries."

LOURIE also noted a similar imbalance at the college level.

"The importance of the various disciplines as far as the number of students is concerned is out of line with the needs of the corresponding sectors of the economy. For instance, there is only one agriculture student for 10,500 inhabitants in an area where the rural population represents 54 percent of total population. However, there was one law student for 1,870 inhabitants."

The Dynamics of Reform

The remarks of Philip H. COOMBS, the Director of the International Institute for Educational Planning, urging educational planners to be "reformers," apply to rural as well as to other types of education. In "Some Reflections on Educational Planning in Latin America," he notes that,

"purely quantitative planning endorses the educational status quo and simply seeks to make the system bigger. However, this is precisely the last thing that clear-sighted Latin American educators and planners desire, for they are strongly dissatisfied with

their present educational system. Some Seminar participants put it quite bluntly: it is more important to change education in Latin America so as to get better results for the money already being spent, they said, than to spend more money on education as it is at present. Many Latin American educators therefore look hopefully to educational planning as a new means for bringing about badly needed changes in their educational systems. Moreover, it is clear that, in such cases, educational planning cannot be effective unless it comes to grips with the qualitative aspects of education as understood in its largest meaning.

"The real issue would seem to be whose business it is to initiate qualitative changes in education and to take the decisions concerning them. This is a perennial issue, of course, which pre-dates modern educational planning. Drastic educational changes have never been an easy task nor one which seemed to be the prime responsibility of anyone in particular. The educational planner, as a newcomer with a broad view, can contribute a good deal by identifying the areas which are most urgently in need of change, but he can hardly hope to formulate what these changes should be and to bring them into effect all by himself. No doubt he can suggest the approach, he can ask pertinent and searching questions, he can lend his support for the changes, he can even try to provide the resources for them in his plan. But, in the last analysis, he must rely upon the administrators, the educational specialists and the teachers themselves to formulate what these changes should be and to bring them into effect. In short, without a pervasive mood of innovation within the whole educational system and without imaginative and influential educational leadership, the efforts of the planner are likely to prove abortive, however strong his proclivities as reformer may be.

"Thus, the question is not so much whether qualitative aspects and 'reform' should be included in educational planning — the consensus is that they should — but rather how the planner can cope with them in practice. Much progress has been made on the quantitative methodologies of educational planning, but comparable methodologies for dealing with the qualitative aspects are still in their infancy. The time has clearly come to give priority attention to this matter."

BALANCED AND UNBALANCED GROWTH:
THE SEARCH FOR A SYNTHESIS

With the publication of The Strategy of Economic Development (Yale University Press) in 1958, Albert O. HIRSCHMAN assailed the "balanced growth" approach to development which had gone practically unchallenged until that time. The ensuing controversy has been long and lively, and has filled scholarly journals with articles on the subject.

In his original critique of balanced growth, HIRSCHMAN argued,

"... the theory stresses the need for the different parts of a developing economy to remain in step to avoid supply difficulties. Industry must not get too far ahead of agriculture. Basic facilities ... — the social overhead capital — must be supplied in adequate volume to support and stimulate the growth of industry.

"... the theory fails as a theory of development. Development presumably means the process of change of one type of economy into some other more advanced type. But ... the balanced growth theory ... finds it difficult to visualize how the 'underdevelopment equilibrium' can be broken into at any one point An entirely new, self-contained modern industrial economy must be superimposed on the stagnant and equally self-contained traditional sector

"The balanced growth doctrine is essentially the application to underdevelopment of a therapy originally devised for an underemployment situation. During the cyclical upswing, a balanced recovery of economic activity is indeed possible — for the industries, machines, managers, and workers, as well as the consumption habits, are all there, only waiting to resume

their temporarily suspended functions and roles. In a state of underdevelopment this is obviously not so, and a simultaneous solution is therefore out of reach, whether or not the government lends a helping hand."

HIRSCHMAN then proposes another account of how development takes place.

"... development has ... proceeded ... with growth being communicated from the leading sectors of the economy to the followers, from one industry to another, from one firm to another. In other words, the balanced growth that is revealed by two still photographs taken at two different points in time is the end result of uneven advances of one sector followed by the catching-up of other sectors. If the catching-up over-reaches its goal, as it often does, then the stage is set for further advances elsewhere. The advantage of this kind of seesaw advance over 'balanced growth,' where each activity expands perfectly in step with every other, is that it leaves considerable scope to induced investment decisions and therefore economizes our principal scarce resource, namely, genuine decision making."

This account contains the kernel of HIRSCHMAN's ideas about unbalanced growth, which Paul STREETEN and others have joined him in defending.

The balanced growth approach which inspired these critiques was specifically propounded in 1953 by Ragnar NURKSE, although the central idea is much older. NURKSE, ROSENSTEIN-RODAN, W. Arthur LEWIS, YOUNG and SCITOVSKY have been among its principal exponents. In his classical formulation, (Problems of Capital Formation in Underdeveloped Countries, Oxford, Basil Blackwell & Mott, Ltd. and New York, Oxford University Press, 1953) NURKSE says,

"The difficulty caused by the small size of the market relates to individual investment incentives in any single line of production taken by itself. At least in principle, the difficulty vanishes in the case of a more or less synchronized application of capital to a wide range of different industries.... People working with more and better tools in a number of complementary projects become each others' customers. Most industries catering for mass consumption are complementary in

the sense that they provide a market for, and thus support, each other. This basic complementarity stems ... from the diversity of human wants. The case for 'balanced growth' rests on the need for a 'balanced diet.' ...

"But how do we get balanced growth? Ordinary price incentives may bring it about by small degrees, though here the technical discontinuities can be a serious hindrance In the evolution of Western capitalism, according to Schumpeter's well known theory, rapid growth was achieved through the action of individual entrepreneurs, producing recurrent waves of industrial progress Schumpeter's theory seems to me to provide the mould which we must use, although we may use it with slightly different ingredients Even if an innovation tends each time to originate in one particular industry, the monetary effects of the initial investment — and other circumstances as well — are such as to promote a wave of new applications of capital over a range of different industries It seems to me that the point is to recognize how a frontal attack of this sort — a wave of capital investments in a number of different industries — can economically succeed while any substantial application of capital by an individual entrepreneur in any particular industry may be blocked or discouraged by the limitations of the preexisting market."

Several recent articles have maintained that the two theories are not, in fact, diametrically opposed. By analyzing and confronting them, the authors of these articles have attempted to evolve a synthesis which specifies the differences between the two and seeks to incorporate useful insights from both.

The two articles which follow fall into the synthesizing category. BHATT sees unbalanced and balanced growth as upper and lower limits of growth potentialities when it comes to planning. SUTCLIFFE, searching for real distinctions between the two strategies, finds them in the different kinds of external economies that each one emphasizes as leading to growth. He finds some empirical evidence on the side of unbalanced growth, but recommends abandonment of the "mock battle" in favor of research on external economies, those unremunerated benefits that an enterprise derives from its economic environment — the presence of other industries, of transport, power, or service facilities; or the existence of a market.

THEORIES OF BALANCED AND UNBALANCED GROWTH: A CRITICAL APPRAISAL

V. V. Bhatt

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These are excerpts from the article.

The nature of the controversy between the protagonists of balanced growth and those of unbalanced growth seems to suggest that the two are mutually exclusive alternative strategies of growth for the underdeveloped countries. However, it is the contention of this paper that the two strategies are complementary to each other.

The basic difference between the alternative formulations, as generally happens in such cases, is with regard to their respective assumptions. Balanced growth theories implicitly assume lack of a motivational problem and perfect knowledge with regard to the constraints operating on the growth process. Unbalanced growth protagonists question these assumptions; they argue that because of imperfect knowledge with regard to the constraints as well as the possibility of modifying them through the growth process, it is not possible to formulate, a priori, any unique maximum development path; it is only by adequately motivating the growth process that the maximum attainable growth can be known as well as realised. A certain unbalance, they argue, is

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necessary for motivating the process. What they fail to realise is that even to attain this unbalance, a certain balance or consistency among various variables is necessary. Further, since the rationale for creating unbalance lies in generating forces which can correct this unbalance, it is also necessary to have some idea about the nature of the balance that is sought to be attained by a process of unbalanced growth. Thus, there does not seem to be any basic conflict between these two formulations of the growth strategy; the two can be integrated in operational terms as is shown later in this paper.

This paper discusses the basic differences between the two theories, and indicates how they can be integrated in formulating an operational growth strategy.

Imperfection of "A Priori" Knowledge

Balanced growth discussion implicitly assumes that the basic constraints operating on the growth process (like technical and demand relations, rate of capital accumulation, possibilities relating to foreign trade and assistance, the growth rate of the labour force and the natural resources endowment) are more or less known, and that it is the task of the development strategy to realise the maximum growth potentialities consistent with these constraints. Further, it implicitly assumes that once this maximum growth path is known, it would not be necessary to provide any additional inducement to the various actors in the process to move on this path. Given these two assumptions, the development problem becomes a mathematical problem of maximisation of growth under given constraints.

However, neither the problem nor the solution is as clear and neat as is made out by the balanced growth doctrine. Both of its assumptions are vulnerable. As unbalanced growth theorists argue, it is not possible to have a priori knowledge relating to the nature and intensity of basic constraints; this knowledge grows only during a growth process.

Further, and here lies the basic distinguishing feature of unbalanced growth, the basic constraints are amenable to change, of course within certain limits which are not known a priori, during a growth process. It is the raison d'être of unbalanced growth to modify the conditioning factors or the external frame of the economy so as to raise the growth rate higher than what can be attained otherwise. Technical change or innovational activity is as much conditioned by the nature of the growth process as the latter is by the former. The nature and volume of innovations are not known in advance and represent a creative as well as an adaptive response of the economy to existing constraints. Similarly, even the rate of capital accumulation, the nature and volume of labour force, the organisational frame and

the magnitude and composition of consumer demand are amenable to change within wide limits. The extent to which they can be modified for accelerating development depends upon the nature of the growth process.

Unbalanced growth provides the inducement mechanism for overcoming the constraints. Imbalances at strategic places motivate the innovational process by generating strains, stresses, pressures and inducements. These pressures and inducements operate not only on the private sector but also on the state, and thus lead both to take appropriate corrective action.

Thus, the problem of adequately motivating growth is basic to the process. It is the function of unbalanced growth strategy to provide this motivation so as to modify the constraints and thus realise much higher growth than can be attained by operating within the constraints as known in advance.

Defining the Optimum Imbalance

But then, as Streeten argues, the real problem is to find out the nature and magnitude of imbalances and the strategic places at which they should be created so as to generate the necessary pressures and inducements that could modify the constraints. Hirschman attempts to solve this problem through what he calls the backward and forward linkages, obtained from the input-output structure of various economies. These linkages reflect the degree to which the other sectors are dependent on a given sector through technical and demand relations. His strategy would be to start the process by initiating development in such sectors on which the other sectors depend to the maximum extent. The development of these sectors would provide the necessary inducements and pressures to the lagging dependent sectors, and these chain effects would provide the momentum to the process.

His quantification of the linkage effects of various sectors suffers from certain limitations. This is based on data of the advanced countries in which the development of basic facilities, including transport, has already reached a high level. And further, as he recognises, his linkages are calculated only on the basis of current input requirements and not also on the basis of capital requirements. For these reasons, the value of linkages in the case of basic facilities like transport is low in his calculations. Moreover, he has ignored the unpredictable but nonetheless massive inducement effects of the development of basic facilities through trade creation, which Nurkse emphasised. If these factors had been taken into account, he would have emphasised the creation of surplus capacity not only in the intermediate sectors like steel, but also in the sector of social overheads. Surplus in these sectors would reflect shortages in the other sectors, and both these would provide the motivation to correct these imbalances.

Interdependence Among Economic Sectors

A significant thing to note is the reliance of both the doctrines on the dynamic interdependence among the various sectors of the economy. Given the basic assumptions of the balanced growth doctrine, this interdependence becomes an argument for balanced growth, while if these assumptions are modified, dynamic interdependence provides the inducement mechanism for motivating the growth process through the creation of imbalances.

Balanced growth does not imply, as is sometimes suggested, that the pattern of domestic output should be perfectly consistent with the pattern of domestic demand; it merely implies that the growth of the export sector should be adequate to meet the requirements of imports of goods which cannot be produced at all or only in inadequate amounts to meet the home demand. Further, it is consistent with the creation of surplus capacity in sectors which experience economies of scale and the products of which are nonimportable. From the longer-term point of view, it would be cheaper, in such cases, either to provide for surplus capacity (as in the case of transport), or to provide room for expansion (as in the case of a steel plant), than to create capacity just adequate to meet potential demand.

Balanced growth thus tries to exploit fully what Scitovsky calls the pecuniary external economies generated as a result of interdependence within the economic system through consumption as well as production. The price mechanism cannot be a substitute for a balanced growth strategy in an underdeveloped economy when structural change is taking place, since it would give the signals too late in the case of external economies generated through interdependence and would not give the correct signal at all in the case of economies of scale.

Nevertheless, balanced growth does not advocate the deliberate creation of shortages in any sector. That is because it takes the basic constraints as given and does not visualise any modification of these constraints by adequately motivating the growth process. Unbalanced growth provides such motivation through the creation of imbalances at strategic points in the economy; these imbalances imply surpluses in the leading sectors and shortages in the lagging sectors. As with balanced growth, here also there is no reliance on the price mechanism for initiating the growth strategy. Present prices provide no indication of the relative scarcities in the future. However, with unbalanced growth, once the growth process is initiated, the new structure of relative prices as well as other nonmarket forces are assumed to provide the necessary inducements and pressures for corrective action. These inducements and pressures would result in a more or less compulsive corrective sequence of investment decisions because of the dynamic complementarities in the investment process. The greater

the potential pecuniary external economies generated by the leading sectors, the greater would be the inducements and pressures in the dependent lagging sectors to exploit these to their advantage by trying to overcome the constraints on their outputs.

Both Strategies Assume Definition of Goal

With unbalanced growth strategy, as Hirschman emphasises, the function of imbalances is to set in motion a corrective process toward the attainment of a balance; this balance may be over-reached, but criteria for judging the appropriateness of the nature and magnitude of imbalances relate to the inducements and pressures which they provide to correct them. All imbalances which lead to an explosive result do not thus satisfy these criteria.

For providing a basis for judging the nature and magnitude of imbalances, it is, thus, necessary to have an idea about the nature of the balance that is aimed at. Without such a basis, it would be difficult to judge the direction of the process. This means that the objective of balance needs to be specified. However, it is difficult to specify it because of imperfect knowledge about the constraints and the way in which they would be modified by the growth process. Hence arises the need for judgment on the basis of which the broad range of balance, within which, ideally, the degree of imbalances should lie, could be indicated. This may never be attained, but then the process should be capable of generating a reverse movement toward a new balance.

This means that, at least as an objective of unbalanced growth strategy, it is necessary to have a broad idea about the nature of balance that is sought. Unbalanced growth strategy thus can have justification only to the extent to which it can set in motion, each time that the desired imbalances arise, a cyclical process which corrects them. Unbalanced growth thus is not inconsistent with balanced growth; it provides the necessary motivation which the latter lacks and thereby makes it possible for an economy to widen its horizon with respect to growth potentialities.

Use of Balanced and Unbalanced Growth in Planning

In operational terms, an economy can formulate two different balanced development paths: one based on the existing state of knowledge with regard to the basic constraints and the other based on informed judgment (as no a priori knowledge in this matter is possible) about the extent to which the existing constraints can be modified. The former provides the lower limit and the latter, the upper limit with regard to growth potentialities. The objective should be to attain the balance indicated by the upper limit. This would inevitably generate imbalances,

as it is only through these imbalances that the desired balance can be attained.

The formulation of these development paths is the function of planning. Excepting Nurkse and Hirschman, the protagonists of both the doctrines realise the relevance of planning to their strategies. A plan would provide the necessary basis for judging the appropriateness of the path pursued. Further, since Hirschman lays emphasis on induced decision making, planning should be an integral part of his strategy as it would make it easier for the state, as well as the private sector, to take appropriate decisions.

With the unbalanced growth strategy, there may not be any need for very detailed planning. Once the crucial sectors are identified and some broad idea about the nature of the movement of the economy toward a balance at a higher level is obtained on the basis of informed judgment, what is necessary is just to plan the crucial projects well. The rest would be taken care of by the inducement mechanism set in motion both with regard to planning and to growth.

For an underdeveloped economy which does not possess the required technical expertise as well as information for detailed planning, this is probably the only effective course of action. To wait for building up information and technical expertise would delay the whole process and employ scarce technical personnel in the task of planning when their productivity in planning and implementing projects would be much higher. Planning is just an instrument for the rational attainment of growth objectives; what is of paramount importance is growth. Therefore, one has to judge the cost of refinement in planning techniques in terms of the growth opportunities to be given up and compare it with its returns.

The present trend toward building planning models of increasing complexity may mislead some underdeveloped countries into devoting their scarce resources to an undue extent to the planning effort when they would be much more productive elsewhere. What is required is not an ideal planning model, but a model which is workable in the context of the situation in the underdeveloped countries. As is happening with engineers, the economists engaged in planning work too are probably tending to urge the use of the most up-to-date techniques, when the techniques economically most viable are perhaps less complex and less refined. Underdeveloped countries have to beware not only of the latest production techniques but also of the latest planning techniques. Techniques in both these spheres should be chosen in the context of their resource endowment and their objectives.

BALANCED AND UNBALANCED GROWTH

Robert B. Sutcliffe

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These are
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from the
article.

Conflicts between balance and unbalance have been the sources of lively controversy at least since Aesop's tortoise won his famous race against the hare. The issue continues to occupy the pages of the journals but the basic pattern of the conflict has been increasingly obscured.

This paper begins, therefore, with a close examination of the supposed differences. Many appear superficial, but essential differences do exist, and are best brought into focus through a consideration of external economies.

The Rival Doctrines

It is customary to preface a discussion of balanced and unbalanced growth with a semantic warning: that "balance" could mean almost anything. In any field of reference "balance" is a relative concept. So theories of balanced growth exist which bear little relation to each other. There is a constant danger that "balance" may be devalued to mean nothing more than successful; and one must issue a similar warning about "unbalance." It is, therefore, essential to arm ourselves with sharper distinctions between the two doctrines than we have at present.

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There is a further semantic trap: "balance" is conventionally regarded as something desirable and commendable. Balanced personalities and balanced budgets are Good Things; unbalanced diets and unbalanced minds are Bad Things. This fact of linguistics and thought, irrelevant to the economic situation, is not always put aside. The tortoise, after all, won his race.

I take Nurkse's doctrine as my point of departure. Nurkse believed that the low income-elasticity of demand for most exports of underdeveloped countries combined with the very low level of domestic demand are the chief obstacles to successful investment and development. Nurkse's answer was simultaneous investment in several or many mutually interdependent consumer goods industries along the lines dictated by demand elasticities. At low levels of demand, an isolated shoe factory, say, would not be profitable since the wage earners would not spend all their income on shoes; yet the "dynamic expansion of the market" springing from the simultaneous establishment of several such industries, by establishing pecuniary external economies in the form of demand for each other's products, could be jointly profitable. Thus, not all such industries need expand at the same rate.

Rosenstein-Rodan's "big push" theory, while its basis is an enlargement of the market in the manner just described, lays more stress than Nurkse's theory on the need for simultaneous investment in the intermediate and perhaps primary sectors of the economy as well as in complementary final industries. In spite of differences in emphasis between Rosenstein-Rodan and Nurkse, however, both formulations are similar in demanding a "critical minimum effort" on the part of an underdeveloped country or well-defined area to escape from the "vicious circles of poverty" into the realms, one presumes, of "self-sustained growth." Marginal decisions in accordance with the market will not serve to effect such a shift; it is not a question of time but of the fact that there is a pit of stagnation from which a country can be lifted only by a simultaneous advance along a broad front.

Hirschman begins his espousal of unbalanced growth from the assumption that the factor most lacking in presently underdeveloped countries is the ability to make investment decisions. The technique of economic development, therefore, is to create strategic unbalances which will induce easily made responses. As Streeten puts it, "the pressures created by lack of balance may render factors of production and particularly entrepreneurial decisions more responsive to economic incentives." Such investment may take the form of social overhead capital or it may appear in some industry which occupies a strategic place in the production process.

Much stress is laid by Hirschman on the "forward and backward linkage effects" of investment. High backward linkage will stimulate

demand for products at an earlier stage in the production process and thus encourage investment at that stage. Forward linkage effects will increase the availability and decrease the cost of the product concerned to later stages in the production process and thus stimulate growth there also. There is thus a presumption in favor of unbalanced advance of those industries with the maximum combination of effective linkage effects which probably lie somewhere in the intermediate stages of production.

It is admitted that the end result of a strategy of unbalanced growth may well be characterized as balanced growth. Furthermore, Streeten believes that "it is possible to reformulate the choice between balance and unbalance in terms of a choice between balance over periods of varying lengths." And Hirschman says that "it is the experience of unbalanced growth in the past that produces, at an advanced stage of economic development, the possibility of balanced growth." Since balanced growth is here supposed by Hirschman to become a possibility at advanced stages of economic development, it cannot be Nurkse's sense of balanced growth to which he is referring. Nevertheless, it is the process of growth which must proceed by unbalanced steps.

The Doctrines Confronted

I suggest that, in a disconcertingly large number of respects, the doctrines, as presented, reduce to something very similar. I will approach this view by way of a few initial criticisms of balanced growth.

The argument for balanced growth is based on the assumption of a static and very small existing level of demand. Two objections spring to mind from this assumption. Firstly, where is the new labor and managerial skill to come from for the new plants? As Michael Lipton points out, a basic defect of both doctrines is "their concentration on inducements and the consequent neglect of physical scarcities."

Secondly, if all the plants are to be profitable, then, with no other sources of demand (domestic or foreign), the propensities to save and import of both wage and profit earners may have to be very near to zero, ceteris paribus, and this does not hold out great hope for further accumulation unless capital is easily available from other sources. If, conversely, the existing level of demand is high, then the argument for balanced growth collapses. It does not need a very high level of demand to induce at least some marginal investment decisions. Balanced growth theorists often ignore the degree of integration of a country's market; integration (perhaps by transport improvements) can enlarge the market and thus the inducement to invest; fragmented pockets of small demand can thus be converted into an effective large demand. Yet it is supply factors which usually dominate discussions of transportation investment and other social overhead capital.

Since the industries in Nurkse's balanced growth are to grow, not at the same rate, but as dictated by demand elasticities; how are these demand elasticities to be decided before the initial investment? Patterns of demand elasticities are, after all, changeable creatures. This militates against balance over too wide a field, since many items fail because of erroneous prediction in the first place. At the same time, however, it should warn against balance over a narrow field, since with fewer items, a higher proportion of investment might suffer. No fairy godmother exists to support unprofitability (and Nurkse is not assuming the fairy godmother of central planning). Besides, in an economy with very little initial demand, there is no such animal as "the pattern of wants." It would be perverse of us to refrain from keeping all our eggs in one basket and then to hang all our baskets on one string — our predictions of future demand.

Moreover, balanced growth is a method of starting which, it is hoped, will induce further, more automatic growth when the market is enlarged. And, in view of the assumed premium on investment decision-making capacity, unbalanced investment which is successful in this respect will change not the assumed capacity but the inducement, given that capacity. Nurkse saw this as well as Hirschman.

Streeten has argued wisely that "the crucial question is not whether to create unbalance but where to create unbalance and how much . . . , which are the 'growing points,' where should the spearheads be thrust, on which slope would snowballs grow into avalanches?" But much the same could be said of balanced growth, since it is also supposed to induce responses. The question is not to attack every possible consumer industry but only a number of them chosen, presumably, according to which group of industries, while in accordance with future tastes, are also on the "avalanche slopes."

Thus the supposed difference between the two doctrines shows many signs of dissolving. If Hirschman and Nurkse were both asked to compose a development strategy for the same country at the same time, I doubt whether there would be many differences. In some ways balanced growth appears as a special case of unbalanced growth. I have shown, I hope, not that the two doctrines are identical but that the distinctions between them as presented by their authors are too blurred for either of them to be of much value in their present form as operational concepts in either economic development or economic history.

These conclusions are not merely destructive in intent. They suggest, I think, that a major error in the controversy, and in discussions of it, has been to regard the two doctrines as entirely equivalent in scope. This is not so, since in many respects the doctrines have different fields of reference.

Nevertheless, both doctrines are examples of an acceptance of the necessity for a "big push" (broadly defined) in economic development. The overt difference seems to be where and over how wide a field the push is to be applied. Thus, on a cardinal issue, the two doctrines are united in their rejection of economic development by piecemeal marginalism. Unbalanced growth, however, is developed more fully as a general theory of development. Balanced growth, at least as Nurkse describes it, is more specific in assumptions, in intent and in the proportion of economic development which may directly result from it; it is more concerned with the removal of a possible obstacle to economic development rather than with the whole process of development. There is justification, therefore, for comparing the two doctrines on the same ground only in the very early stages of industrial growth. But even for this purpose we still need clearer lines of demarcation between the doctrines.

The Role of External Economies

Both doctrines at some stage attach importance to external economies in promoting growth. In general, the type of external economies with which the theory of industrialization is concerned is that known as "pecuniary external economies." These arise where investment in one industry (or group of industries) becomes profitable as the result of prior investment in another industry (or group) and where no payment is made for such benefits. Wherever such external economies exist, the profitability of the investment which produces them will understate its social desirability.

It is temptingly neat to see the whole process of economic development as the transmission and reception of external economies. Vacuums of profitable opportunity are continually created in the form of external economies to be filled by intrushes of the application of capital. It would be misleading to allot external economies such a monopolistic role in economic development. The expansion of an industry may not be characterized by the transmission or receipt of external economies; it may for instance be mopping up extra demand or it may be replacing existing products in the market; or it may be creating external diseconomies. Nevertheless, economy-creating industries have an important place in the pattern of rapid economic development.

Once the process of development has begun, it can continue in two ways (or a combination of the two): firstly, by subsequent creation of external economies by industries which benefit from the initial economies; secondly, by the initial economies returning to the industry which created them as economies from those industries which benefited from them. If either of these processes is dominant, the likely pattern of development will be diversified in nature in the first case and perhaps based on a predominant "complex" of industries in the second.

In one sense this may look like the difference between balanced and unbalanced growth; but the first would not necessarily be "balanced" in Nurkse's sense. Before deciding what sort of economies we would expect to arise in balanced and unbalanced growth, it is worthwhile to indulge in something of an orgy of classification of possible types of external economies. The following distinctions seem to me the most relevant:

- 1) vertical or horizontal (according to the relation of the giver to the beneficiaries in the production hierarchy);
- 2) intensive or extensive (according to the small or large number of industries which are direct beneficiaries);
- 3) "departing" or "returning" economies (according to whether the industry which initiates the economy does not or does receive further economies from elsewhere as a consequence); and lastly, rather obviously,
- 4) strong or weak.

In a situation of balanced growth, we would expect the external economies which create the stimulus to be horizontal, extensive, "departing" and (individually) weak. Nurkse has been wrongly criticized on the grounds that he suggested that this was the end of the matter. On the contrary, balanced growth is supposed to be the initial force to lift a poor country from its stagnation; how it develops thereafter depends on many other factors. After this initial stage, therefore, there is no presumption that any particular forms of external economy will emerge.

Rosenstein-Rodan's treatment of external economies in production places primary emphasis on the horizontal economies in final goods industries; but importance is attached to economies arising elsewhere. At least he is more specific than Nurkse ever is that something is expected to happen after the first impact of the horizontal economies.

In unbalanced growth we may expect two distinct types of external economy to predominate. The first results from investment in social overhead capital causing both reduction in costs and enlargements of the market. The importance of this is stressed by Hirschman (as indeed it is by Nurkse, so it is not peculiar to one theory). The second type of external economy is that created by investment in a strategic sector of the production process. We would expect to find that these will be predominantly vertical economies arising in the intermediate stages of production with first impacts both ascending and descending. It is worth noting that in the case where such economies exist with first impacts ascending, there exists a strong likelihood that a circular

flow will arise in the input-output matrix of the economy consequently generating what I have called "returning" economies. While the external economies of balanced growth are created by the expansion of several industries, those of unbalanced growth are likely to originate in fewer industries; we thus expect in the initial stages, at any rate, that each set of external economies will be stronger and more intensive than is the case with balanced growth.

Chenery and Wanatabe have made rough calculations of the interdependence of economic sectors in Italy, Japan and the United States. The types of production found to have, in Hirschman's terminology, the greatest backward and forward linkage effects (the precondition of the external economies we have mentioned) is the group labelled "intermediate manufacture"; this group includes iron and steel, nonferrous metals, coal products and textiles. It is among these industries (if the pattern holds good elsewhere) that Hirschman expects to find the strategic sectors for advance by unbalanced growth. The list includes industries which are likely to set up circular flows and "returning" economies since they provide inputs for each other — for instance, iron and steel and coal.

Conclusion

Bloodthirsty readers on the scent of a knock-out victory for unbalanced growth will be disappointed by the conclusions. The major conclusion of this paper is that, when reexpressed in terms of external economies, little is left of the two original doctrines as formulae for growth. We are left instead with two fairly distinct patterns of growth which, while clearly related to the doctrines from which they derive, do not depend for their usefulness on the validity of the assumptions of those doctrines. The two patterns are not exclusive; they are, rather, extremes. Any growth experience may contain elements of both and there will be many mid-way positions. The doctrines, as I have now converted them, are not, by themselves, adequate as tools to describe industrialization and economic growth. They are elements in a broader tradition of descriptive and historical analysis and may prove serviceable when conjoined with other theories of the "big push." The two doctrines, however refined, will be most appropriate to countries where some sort of economic "big push" is more marked.

Little further is to be gained from mock battles between two contrasting types of growth. It might be worthwhile instead to improve our theory of external economies, which is in need of much further clarification and refinement. If this is done, then an alliance of this aspect of pure theory with the theory of linkages and the techniques of input-output analysis may reap dividends for our knowledge of the

process of economic growth, both in history and in contemporary and future development.

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APPLYING PRINCIPLES OF MANAGEMENT IN THE LESS DEVELOPED COUNTRIES

The development of systematic thinking about management is quite recent, even in the high-income countries. It becomes important only in the present century, well after the beginning of the Industrial Revolution. A large volume of specialized literature has rapidly grown up to help managers from these countries apply management principles either in their own countries or in multinational business. Unfortunately, only a small part of this literature is relevant to the interests of managers from the less developed countries. Very little has been written specifically with their problems in mind, although the application of sound principles of management is obviously of prime importance if these countries are to use their scarce resources of know-how and industrial plant to maximum advantage.

The three articles in the following section appear in the International Handbook of Management, which was prepared with the support of the Comité International de l'Organisation Scientifique, the Council on International Progress in Management and the American Management Association. Many of the book's 59 articles are of interest primarily to managers from the less developed countries. Ahmed SHERIF discusses the relevance and usefulness of management techniques for the industrializing nations. Keith DAVIS is concerned with culture conflict and the transfer of management skills. Achim FUERSTENTHAL's article on the usefulness of psychological testing for managers in the developing countries provides us with the views and experience of the manager of a consulting firm working in this field.

MANAGEMENT TECHNIQUES
AND THEIR APPLICATION
IN LESS DEVELOPED AREAS

Ahmed Fouad Sherif

[From "Management Techniques and Their Application in Less Developed Areas, with Special Reference to the Experience in the United Arab Republic, " International Handbook of Management, Karl E. Ettinger (ed.), New York, McGraw-Hill, 1965, US\$19.75, pp. 133-142.]

These are excerpts from the article.

Although the development of modern industry in advanced countries can be traced back over the last two hundred years, the techniques used by modern industrial management can be traced back only to the early 1920's. Management development has lagged behind the development of modern production techniques in industrialized countries, particularly where the application of the scientific method in management problem solving is concerned. Apparently, this time lag could be avoided (and the same sequence of application does not have to be followed) in the case of newly industrializing countries. Deliberate measures for accelerating the application of these techniques might conceivably narrow the gap and even promise a comparative advantage for the late starters. The absence of the rigidities of the established organizations, strong union pressures, and the possibility of developing a more integrated approach might facilitate this acceleration.

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Problems of Transferring Management Techniques

By contrast, the association of modern production technologies with the most rudimentary management techniques in newly established enterprises in less developed countries readily suggests that successful modernization involves, *a priori*, more than the direct transfer of universal methods. The chief difficulties in the way of effective use of modern management techniques are to be found in the wide and complex field of managerial attitudes, motives, behavior, aptitudes, and educational and cultural backgrounds.

Developed in advanced countries. Modern management techniques, like production equipment, have been conceived, developed, or put into practice by leading managers or progressive entrepreneurs in advanced countries, who acted as sponsors of some technique in response to specific problems pertaining to a specific environment and conditioned by certain limitations. The first series of modern management techniques introduced by Taylor, Gilbreth, Gantt, Emerson, and other scientific management leaders or efficiency experts were oriented toward faster production rates, method standardization for higher and more even quality, and labor-skill savings.

Adaptation. Viewed against the environment of management in less developed countries, the successful application of most modern management techniques calls for considerable adaptation. Work study and productivity techniques seem to have been the first to spread internationally through the promotional efforts of international organizations. Useful as they are, the partial adoption of these techniques might only increase the prevailing functions, resulting in inventory accumulation, excess capacities, and ineffective market planning. Also, their orientation to saving labor might run counter to the pressures for expanding employment. The successful introduction of these as well as other management techniques requires a great deal of dovetailing and an integrated approach based upon thorough understanding of the interrelations between various management functions and techniques.

The successful adaptation of these techniques is related to a multiplicity of factors operating on the capacity of management for assimilating new and more complex methods, also to the very methods of "transferring" them. Many variables are involved, including the prevailing forms of organization, the institutional framework, the education and sophistication of potential management personnel, etc. In a real sense, the whole problem of modernization of management techniques is fundamentally one of management development broadly conceived. It is according to this conception that some of these pertinent factors will be discussed in their bearing upon the possibilities of different functional techniques.

Shortage of managers. In most developing countries, the private sector has generated little or no surplus of high-quality management potential for staffing other enterprises. In some countries, like the United Arab Republic and India, well established enterprises have virtually acted as training grounds for a sizable number of potential top managers for newly established public sector enterprises. Whenever prosperous large-scale private enterprises exist, government salaries are significantly lower than top management salaries in successful private companies. Senior executives are rarely willing to work for the public sector. The inevitable outcome of this supply situation is that the old government bureaucracy constitutes an important source of top management recruitment, with the inevitable risk of transferring old methods.

No management project planning. In less industrialized countries that are importing modern management techniques, some of these techniques have seeped into local enterprises from progressive subsidiaries of foreign enterprises. Accelerated industrialization targets are to be attained mainly through developing national managers. However, the importation of management techniques has lagged behind the importation of modern technology. Engineering studies and blueprints are prepared with the help of foreign consultants or the very technical assistance of equipment manufacturers. But, the transfer of related modern management techniques is rarely conceived as an integral part of the project. For a few projects, usually those being presented for loans, some formal appraisal of management is made. Whenever the assurance as to management quality or adequacy is lacking, the development lender often proposes the hiring of an experienced general manager or a good part of the management team. For more complex management techniques, a management contract, or a joint venture plus management contract with leading foreign firms, is often proposed.

Unfavorable environment. Management in a less developed country has its own particular problems, which differ from those of management in advanced countries and which correspond to its experience in developing problem-oriented techniques. Also, management in most developing countries functions in an essentially unfavorable environment, which requires managers to adjust, improvise, provide solutions, and, in particular, compensate for nonexistent facilities and services which, in a developed country, are available and often taken for granted by their counterparts there. As many management techniques are applicable only after some degree of adaptation, managers are typically called upon to resolve conflicts and maladjustments between received techniques and the prevailing environmental conditions and limitations.

Another feature of the process of assimilating modern management techniques is the tendency in many developing countries to accelerate the sharing of productivity gains. Manifold pressures, including the revolution of expectations, the demonstration effect of high mass consumption in advanced countries, and the growing power of unions, influence new national governments to act as a third force in a system of industrial relations conducive to the more immediate and directed sharing of productivity gains.

Production Management Techniques

Production management problems in the process of industrialization are those involving a forced-pace changeover from primitive factory or artisan workshop to mass production systems involving highly mechanized and expensive plant. The transition specifically involves a shift from various types of intermittent production to continuous systems including an integrated assembly line, continuous flow processes, and a high degree of automation. The transition involves serious conflicts, maladjustments, and inadequacies inherent in the economic environment. Conflicts between environmental conditions and the requirements of newer systems give rise to production management problems which can be rationally formulated by asking, "Which production system would be optimal in terms of its requirements and of a set of environmental conditions?" Pragmatically, the problem is "how" to cope with the conflicts involved.

The problems of installation and initial operations are often taken over by foreign firms. Under different types of such management contracts, as well as under the joint venture arrangement, some diffusion in the performance of production management function is obtained. It amounts to some type of division of labor in the performance of the complex functions associated with the introduction and operation of a new production system.

Local enterprise managers are not completely relieved of their responsibilities for making basic decisions, such as those relating to plant capacity, selection of processes, etc., no matter what type of work-sharing arrangement seems most feasible. Considering the longer lead time involved prior to the start of economical, smooth operations, the decisions mean long-term commitments on the part of enterprise managers.

Active joint participation of the enterprise managers along with government and planning personnel has proved conducive to more realism in project selection and appraisal. Often, those directly involved in implementing the projects develop a greater measure of consciousness of the soundness of a new project, stress its feasibility, discount the less tangible social profitability criteria, and inject more

concern for the probabilities of success. The recruitment of a top management team at an early stage of project origination to participate in the project-making has proved, whenever possible, a more successful practice than that of handing over a final project for implementation at a later stage.

Most modern industrial enterprise managers, who come from the ranks of engineers and technologists, display a great propensity for adopting refined scientific techniques in the area of production management. As the economics of continuous production systems come to be appreciated by top management, new needs are discovered and a whole battery of new management techniques comes to be viewed as an integral part of the system. For example, the high fixed cost of stoppage induces the adoption of preventive maintenance, systematic procurement planning, and inventory control. The techniques of quality control and of product standardization and development will be adopted. Production-minded managers come to appreciate the importance of other managerial functions, as well as their interrelationship.

The Importance of Marketing Management

In most industrial enterprises, the production function is typically regarded as the major activity. To cope with the marketing requirements of new production systems, top management approaches need drastic revisions. Enterprise managers are primarily concerned with plant operations, and they come to recognize marketing problems only under duress (e. g., inventory accumulation, shortage of working capital, intense foreign competition). In addition to lack of appreciation for modern marketing techniques and basic marketing education, there are some significant environmental factors conditioning these attitudes. New enterprises established under tariff protection, or those operating virtually in a seller's market, create situations that cause enterprise managers to feel that marketing is relatively unimportant.

The extent of the adoption of modern management techniques in marketing, the organization of the marketing management function, and the makeup of the management team ascertain the state of marketing management in industrializing countries. For example, very few enterprises use sales forecasting as the basis for production scheduling. Under pressure of planning, supervision, and governmental control, a larger number of public sector enterprises are undertaking sales projections and estimates. More refined techniques of market evaluation and sales forecasting are being appreciated in connection with investments in new facilities or the development of new products. In newer industries where minimum economic size exceeds domestic market needs, "surplus" has to be exported. The difficulties encountered in disposing of a growing surplus brought home the notion that marketing is decisive for the success of new enterprises. It is increasingly

realized that the starting management team ought to include a sales manager with professional marketing skills to avoid any marketing problems relegated to "postoperative phase."

In some enterprises, the purchasing, selling, and storekeeping activities are combined in one department, usually called the "commercial department." Typically, the sales manager or the commercial manager is below the production manager; thus, the marketing function is made subservient to the production function. Very few top executives in these enterprises started their careers in marketing or have had any experience in this field. In the recurring conflict between production and sales as to lot size, variety, product design, and length of production run, the conflict is rarely resolved in favor of the sales department. Under these conditions, the emerging professionally trained sales manager has a basic job to do in converting top management to the modern concept of marketing.

As the professional marketing man gets integrated into the top management team, product development is increasingly accepted as a top management responsibility. Delegating product research to government research organizations, looking abroad to new product standards, designing products by imitation and thus divorcing product design from local market needs, all testify to the problems involved in incorporating product development as a function of top management. This would also require systematic feedback information, exposing the local producer to some imported quality competition, enforcement of minimum specifications standards for export sales, quality control agencies, and industrial research organizations. In many instances, government-forced price reductions and more liberal attitudes toward product research and advertising expenditures have forced the adoption of sales promotion and aggressive selling techniques.

Personnel and Industrial Relations Techniques

In developing, adapting, or modernizing the prevailing industrial relations systems in less developed countries, the government usually plays the dominant role. The requirements of continuous production systems in terms of a stable, fully committed, highly motivated work force are increasingly recognized. More forceful are social pressures upon governments to introduce measures for employment stabilization through legislation and administrative discretion.

In some cases, these measures have reduced the incentive for improving productivity and introducing mechanization in ancillary processes. The presence of excess labor and high labor costs seems to have generated a greater drive for expansion of production with the same work force. At times, lower prices for the consumer, coupled with higher labor costs resulting from these institutional arrangements, have

created a profit squeeze, depleting the funds required for new investments in expansion and modernization of equipment.

Top managers are described as authoritarian in their relationships with subordinates. This is particularly true of owner-managers on the one hand and of the bulk of unskilled labor on the other. Protective labor legislation has largely emerged with a view to attaining a greater measure of stability through restricting management rights to fire, discipline, discharge, and use other "employment-reducing" prerogatives.

Work study and related work rationalization techniques, like other labor-saving and possibly employment-reducing devices, tend to generate labor opposition, especially where there is a strong union. The government's role in cases of outright labor opposition can be considerably greater than the traditional role in advanced countries. In many situations where established industries are going through a process of modernization, the government concerned has not been equipped to handle the change effectively. Whenever an explosive management-labor situation developed, the authorities stepped in only to police the situation, control the mob, and limit the damage or violence. At times, many managers facing a deteriorating labor-management situation have positively invited government intervention, repeatedly relinquishing their autonomy in handling industrial relations problems. In less violent situations of labor sabotage, professional managers of public enterprises tend to disguise and suppress the symptoms until they are forced out into the open. In many developing countries strikes are banned in specific sectors or in the economy at large. This, coupled with compensatory measures like restriction of management right to lockouts and stoppages, firing and discharging, etc., has not prevented work stoppage in newer forms and even the invention of new names for strikes.

With increasing governmental controls, growing power of unions, and the expansion of the public sector, pressures arise for the adoption of a more objective approach to the problem of justifying pay differentials. Enterprise managers readily accept job evaluation techniques as a highly valuable addition to their kit of tools. In the UAR, for example, some type of formal job evaluation in mixed and public enterprises is now almost universal. The general level of pay, including minimum wages and ceilings for executive salaries, is set by the government and incorporated in the legislation, leaving the relative position of individual jobs largely to enterprise managers' autonomy. The extension of the job evaluation technique to include professional job groups, a development introduced in newly industrializing countries, happened only recently even in the United States. This is perhaps one area where management in developing countries ought to start from the point only recently reached by advanced management. An adequate background

in the fundamental concepts of job evaluation is a major management training need.

By the same token, the introduction of modern personnel management techniques is closely related to development of the personnel function in management. The professional personnel director, representing a new viewpoint and new skills, would have to gain his place as an effective member of the management team. The staff concept applied to the personnel director and the concept of human relations skills as an integral part of the training of managers and supervisors at different levels would have to be incorporated in management thinking.

Modern Controllershship Techniques

Modern controllershship techniques used in planning and control present a recent departure for enterprise managers in less developed countries. The modernization of legal codes and institutional practices generates a growing demand for the professional services of chartered accountants. Public enterprises, run along departmental lines or as public corporations, usually lag behind private corporations in developing a modern accounting system. Lacking the required measures of financial autonomy, the changeover to modern techniques is often dependent upon official realization of the inadequacy of traditional government accounting for the purposes of modern management. An aversion to providing accounting and financial data beyond the requirements of the law is often displayed by top managers coming from the ranks of engineers and technologists. Lack of familiarity with basic management accounting naturally inhibits the engineer-manager in attempting to develop accounting as a management tool.

The symptoms of an underdeveloped controllershship function are manifold. There is a widespread tendency for average managers to conceive of accounting in terms of historical recording of financial transactions. At a subsequent stage, and under environmental pressures for greater cost consciousness, cost accounting and stock control are introduced. In only a few modernized enterprises is the system of accounting designed and installed with a view to providing the basic control information. When the initial management motive for developing an accounting system is mainly to comply with the requirements of credit institutions, tax legislation, or company regulations, the adequate accounting basis for control is usually lacking. Under the circumstances, typical owner-managers in small enterprises would quite rationally tend to develop a minimal accounting system. They believe that this is more in line with secrecy safeguards and false economy notions. Professional managers in public enterprises and progressive private enterprises are less reluctant to install more elaborate systems. The end product, as observed in a number of cases, is often the

installation of a highly elaborate accounting system designed with little or no regard for managerial control purposes.

Without educating top managers in the potentialities of using accounting data for making day-to-day decisions, the proper design and the effective use of a management accounting system are not assured even when professional accounting organizations are adequate. In some developing countries like the UAR, India, or Chile, for example, professional accounting skills ranging from bookkeeping to full-fledged accounting can hardly be described as in short supply. The modern controller, however, as an effective member of the management team, requires a broader background than that of the specialist accountant as currently produced. In addition to prior accounting, this would have to cover related fields of finance, statistics, organization, and decision making. To develop into a controller, a professional accountant should grasp the function of controllership as related to these areas and acquire the ability to perform as a member of the management team.

With the growth of the public sector and the growing acceptance of national accounting and comprehensive planning, a large number of public and mixed-ownership enterprises are adopting budgeting techniques. Procurement budgeting in terms of foreign exchange requirements is one of the first areas of systematic budgeting appreciated by government agencies. In the absence of objective and acceptable budgeting techniques in situations of shortage and control, the enterprise manager is always tempted to build up reserves, inflate his requirements, and operate in terms of safety factors, contrary to the rational principles of inventory control. Another area of significance is that of credit budgeting. Systematic credit budgeting might actually economize cash needs and reduce the credit requirements, or improve the terms on which credit is made available. Central credit budgeting, based upon credit budgeting at the enterprise level, might help reconcile the necessity of creating credit to meet growing financial needs on the one hand, and of achieving a reasonable price stability on the other. It can also enhance the effectiveness of banking services and assure an adequate response from financial institutions to the requirements of enterprise.

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MANAGEMENT TO ENCOURAGE PRODUCTIVITY IN DEVELOPING COUNTRIES

Keith Davis

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These are excerpts from the article.

Almost every country of the world has established as one of its national goals an increase in the productivity of its people. To accomplish this goal, its own people will have to adjust to new ways of doing things as determined by modern technology and scientific management. These conditions require a manager to have a great understanding of human relations and social systems. There are four major areas which need to be understood in order to encourage productivity in international management. These areas are social systems, change, productivity, and motivation. Let us discuss each in some detail.

Integrating Social Systems

Different social systems affect the responses of all persons to the machinery and the management which is offered. Many social systems have had little experience with modern concepts of productivity and so are either blind to the idea or antagonistic to it. For example, in some cultures of the world, the idea exists that the more education one has, the less work he should do. An educated man may surround himself with aides whose primary job is to do errands

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for him rather than to work as a team toward productivity. In some instances, an educated man looks upon work as degrading, which certainly does not endear it to those subordinates who should be becoming more productive.

Sometimes social caste and rank interfere with teamwork and communication. In India, in some retail stores, when a cashier finds that a clerk has made an error in a sales check, he will not correct it himself or tell her what is wrong. He simply returns it to her while the customer waits for her to try to find the error.

On other occasions, social customs interfere with understanding. In the United States, a supervisor feels that when he is talking to a man, that man should look him in the eye. In fact, if an employee evades his direct glance, a supervisor judges that the man may be trying to hide something. In some other countries, however, it is a long-established habit for a person never to look an elder or superior in the eye. To do so is considered impertinent. Consequently, a supervisor from the United States who tries to deal directly with his men in this manner may find that he cannot establish good human relations with them.

Similarly, culture in the United States emphasizes face-to-face thrashing out of differences. Hence, companies in the United States have been able to develop bargaining systems which, in most industries, are built around local face-to-face negotiations by the persons directly involved. In Latin America, where status differences and authority are more significant, it is more difficult to deal directly with an employer. Hence, bargaining is more dependent upon an intermediary role by government. Workers have no difficulty telling an intermediary — the government — how they feel about management, but they are not culturally prepared to tell management directly.

Making Changes

The second point concerns change, which is the effective device by which different cultures are integrated. Culture changes slowly, and in so doing it gives stability and security to society. This is an advantage. However, there is the balancing disadvantage that culture makes change more difficult for each of us. The manager's job is to try to retain in his management practices the essential elements of both old and new cultures so that his group may work with the security of some old practices, but also with greater productivity than the old culture has normally accomplished.

Change is a human relations problem as well as a technological one. The technological part of change can usually be solved by the logics of science, but the human relations part is dependent upon the art and skill of supervision.

Change can sometimes be made acceptable through a simple adjustment. In Texas during World War II, one of the first blackout aircraft factories was constructed. It had no windows or skylights, so that it could be operated at night without showing lights to attract enemy aircraft. The building was air-conditioned by the latest equipment to control temperature, humidity, and air circulation. Since the ceiling was over fifty feet high, most of the air exits were high on the walls and ceilings.

As soon as the first group of employees started work, they began to complain about inadequacy of the air conditioning. Air-conditioning engineers, called to check the equipment, reported that the air conditioning was excellent — providing exactly the air conditions that scientific studies showed the human body needed. Still the complaints grew worse until they were definitely undermining morale and productivity.

Finally, one alert manager recognized that most of the workers were rural people who were new both to industry and air conditioning. They felt restricted in a windowless plant where they could neither feel a breeze nor see it blowing. This manager simply had tissue streamers tied to the ventilators high on the walls. Anyone who felt uncomfortable could look up to see the paper fluttering in the breeze and be assured that he was getting plenty of air. Employee complaints soon became negligible. That which was technically right was finally made humanly right.

The paper-streamer device is rarely seen today in the United States because people are adjusted to air conditioning, but it can be seen in other parts of the world. A few years ago, when teaching in a South American executive program, we visited a new factory and observed the streamers in use. This action was a simple demonstration of good international management — a recognition of the human factors in a technological change and an effort to apply human tools to achieve a workable result.

Gaining Employee Support for Changes

Since management initiates most changes, it has primary responsibility for handling them in such a way that there will be satisfactory adjustment. Though management initiates change, the employee controls the final decision to accept it or reject it, and he is the one who actually accomplishes it. Under these conditions, employee support becomes essential.

Management has developed a number of ways to encourage employee support of changes. One of these is to set up various pledges to protect employees from economic loss or from decreases in status and

personal dignity. Each worker needs to feel that he personally will not suffer from the change or, better yet, that he will gain from it. In fact, if workers can be assured that they will share the benefits of a particular change, this will be their positive motivation toward acceptance. Sometimes, when supervisors introduce changes which may be resisted, they attempt also to introduce personal conveniences at that time, such as floor mats, chairs, ventilators, and better lighting, thereby showing that they are interested in the whole job process, including the worker.

Communication is another essential element for reducing resistance to change. People tend to fear that which they do not understand; consequently, the full meaning of a change should be communicated even though some aspects of it may be bad. Naturally, positive aspects should be emphasized as much as possible. Since people resist change for both logical and emotional reasons, communication should deal with both logical and emotional viewpoints of the employee.

A manager also reduces resistance to change by preventing trivial and unnecessary changes. Individuals can tolerate only so much change, and if they are bombarded with irritating small changes, they will be less apt to accept major changes that occur later. If a group can be encouraged to participate in recognition of the need for a change, then change will be even more supported. Since change requires unlearning of old habits, attention should be devoted to this process.

Change should be made on the basis of the impersonal requirement of a situation rather than on personal grounds. A supervisor who says, "I want this done," is less likely to gain acceptance than a supervisor who says, "Men, this is a need of ours which we can solve by doing it in this way."

Old habits can be changed only through long-run creation of new conditions rather than by short-run temporary adjustments in a management effort. Temporary pressures are not effective in changing long-run habit patterns. Neither will a temporary lecture or reprimand by a supervisor be effective in changing the habit patterns long established by his men in their different social system. There must be a long-run effort based upon long-run new conditions.

Communicating the Idea of Productivity

A third important idea in improving supervision is to communicate the real meaning of "productivity" to the people involved. The modern industrial concept of productivity is not really understood in many cultures of the world. Even when people are able to talk about productivity in an intelligent way, they still may not be able actually to apply the concept in their day-to-day work. In other words,

productivity does not get priority over other cultural values which are inconsistent with it.

In one country, I observed a crew of seven men unloading half-inch steel rods from a flat-bed truck. In normal circumstances, this job should have been accomplished in an hour or more, but in this case it took more than one day.

Of particular interest to me was the fact that one man on the truck bed always picked up a rod on the wrong side of it. Two men were on one side of the rod and he was on the other, so that when they stepped to the edge of the truck bed to throw off the rod, his head always was in the way! At that point, he had to turn the rod loose, stoop under it, and grasp it on the other side before it could be thrown off the truck. The foreman watched this odd operation all day without offering any suggestion for improvement in productivity. Furthermore, the truck could have been driven adjacent to the stack so that the rods could be thrown onto it. It would appear in this case that the supervisor, as well as his men, did not have an abiding interest in productivity; consequently, they were unable to discover means to improve their productivity as they worked.

It is possible to make large increases in productivity while still keeping enough of the old culture to maintain security for the persons involved. In other words, the old culture is blended with the new. Japanese industry has been able to retain much of its old culture and yet to be competitively productive. Japanese workers are hired virtually for life, and managerial promotions are mostly by seniority. However, within this cultural context, most of the technological improvements of modern industry have been introduced. What the Japanese factory misses in rationality and efficiency, it seems to gain back in stability and employee loyalty. Culture is used to reinforce production needs rather than to interfere with them.

Motivating People

A fourth point in improving management is to apply concepts of motivation in terms of the environment of the people supervised rather than in terms of an advanced industrial economy. What is effective in one environment may not be so in another.

In a South American factory, for example, the accident rate was high. The six local superintendents were not following management's instructions for accident prevention. The overseas top management of the company then tried a high-powered safety publicity program of the type used in its own home plants. This was to no avail. Finally, a wise staff man offered an effective solution. Papier-mâché heads of the six superintendents were molded and colored, with the idea that

each week these heads would be arranged on a "totem pole" at the front gate in the order of the weekly safety rank of each department. The accident problem was quickly corrected. In this case, management used existing cultural values of this country in order to accomplish the desired result of better safety.

Priority of human needs is generally recognized to be in order from physiological needs to security needs to social needs to ego needs. In underdeveloped countries, most employees are still seeking basic physiological and security needs. Hence, some of the more sophisticated and elaborate motivational devices of modern industrial management may not be appropriate in these countries. The needs of their workers at this time may be more simply reached by direct motivation. In some instances, they have worked in economic systems which had little direct connection between how effectively they worked and how well their needs were satisfied. Therefore, they need management to show them simple, direct evidence that if they work more effectively, they will receive more. In other words, work needs to be interpreted in terms of their immediate needs, instead of waiting for indirect results through a complex economic system. Accordingly, action which would sometimes be inappropriate in an advanced country may be effective in the underdeveloped country, as illustrated by the following example.

In South America, an international petroleum company employed about twenty nationals in an oil well perforation team managed by a foreign executive. In spite of management efforts, each perforation job averaged nine days. Since a similar job with similar equipment was done in the United States in $1\frac{1}{2}$ days, management reasoned that — even considering the more primitive operating conditions in South America — the job could surely be done in six days or less. Since the job did require genuine teamwork and the men worked in isolated locations less subject to direct supervision, management decided on a drastic step to break the cultural pattern. It offered nine days' pay for each job regardless of actual work days. This dramatic economic incentive proved sufficient to alter long-standing cultural habits.

The employees' attitudes changed rather quickly. Within four years, they had reduced perforation time to $1\frac{1}{2}$ days, the same as in other efficient countries. Team members readily offered suggestions to improve teamwork and adapt technology to the special conditions of that area. On two occasions, the team encouraged transfer of men who would not change their habits and were thus holding back the team.

In summary, in developing countries, management seems filled with many inconsistencies and difficulties if one approaches it from the culture of an advanced industrial economy, but if the situation is approached with the view of integrating the best of modern technology and

scientific management with the best culture of the underdeveloped country, then better productivity is sure to follow. In the accomplishment of this better productivity, the wise manager will pay particular attention to understanding social systems, making changes carefully, communicating the idea of productivity, and motivating people.

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PSYCHOLOGICAL TESTING
IN A DEVELOPING ECONOMY

Achim H. Fuerstenthal

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These are
excerpts
from the
article.

In Latin American countries with developing economies, psychological testing and other psychological techniques have become a fairly well established activity during the last twenty years. The use of psychology in business was stimulated by the influence of advanced managerial thinking on industrialists and executives in general, the financial and technical participation of U.S. industry in national enterprise, and the upsurge of American enterprise.

The assessment of human productivity is an important feature of industrial organization anywhere. In a highly structured industrial society this assessment does not necessarily have to rely on psychological methods. Records of a person's past performance are plentiful and reliable; references to an individual's character and personality can be obtained from most of the institutions through which he has passed (schools, army, etc.). In a developing economy, for a multitude of reasons, such information is rarely available and hardly ever reliable. The intellectual and behavioral standards of schools and universities, generally, have little application to the emerging industrial pattern of life. Previous work records do not mean as much as in a fully developed society.

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One of the characteristics of developing societies is the heterogeneity of industrial organization, implying the coexistence of varying degrees of technological progress and variations in equipment, procedures, and the demands made upon operating personnel. People who are valuable in certain functions within one organization may fail completely in related functions within another because of divergent approaches to the same production problem.

In developing economies most enterprise finds itself, justly or unjustly, geared to a policy of short-term profits. Testing is accepted as a time- and expense-saving device, but not as a research program. Most test material is imported on the strength of its reputation, i. e., on the basis of validations carried out in the country of origin. We shall try to analyze various types of tests in their applicability to developing economies. It should be understood beforehand that only validation done on the spot has been accepted. The author suggests that the test itself should be conceived in the area of application, although general, internationally accepted principles will have to be incorporated.

Testing Operational Skill

Apparatus for testing reaction time is as old as experimental psychology. Within developing economies it has had a revival, being most commonly used to screen rural workers for industrial jobs and to identify those fit for technical training. Whatever the equipment used, the results of reaction time testing are likely to be confusing. This confusion springs from the fact that there is hardly ever a significant correlation between reaction speed and later production. The administration, scoring, and interpretation of such tests call for the experience of trained psychologists.

To control results, testees should be divided into three groups, namely delayed reactors, medium reactors, and prompt reactors. With a few exceptions, delayed reactors are a poor choice for industrial work. Yet it will be found that some effective older workers and even foremen react much more slowly to the test stimulus than one would expect from their work. It is a completely different matter if young testees, whose reactions are not set in any way, score poorly in reaction time. In this case, delayed reactions may be an indication of physiological, emotional, or mental disturbance. On the other hand, there are problems with prompt reactors as well. Particularly quick and facile reactions often go hand in hand with a peculiar uninhibitedness which tends to spread into the moral field.

Most industrial functions require the right choice among several possible reactions rather than particularly quick ones. To test for this purpose, apparatus has been devised which requires different muscular

responses to different signals, usually engaging both hands as well as legs and feet.

Again no simple reading of scores referring to reaction speed, error avoidance, or perseverance (breakdown avoidance) is as yielding as one might surmise. Performance in such experiments proves to be strongly influenced by present physical and mental state, disposition to comply with rules, and previous acquaintance with similar tasks and situations, as well as other accidental conditions.

There are testees who show something like a natural talent for multiple response, but these are not necessarily the quickest learners of actual work routine, nor are they generally the most reliable operators. In fact, a pronounced facility in dealing with stimuli seems somewhat conducive to treating stimuli with half attention, which leads to errors in the long run.

Here again, the mediocre testees seem to be the most likely to succeed in a work situation, a fact which renders classical test validation impossible.

On the other hand, choice reaction tests, if carried out over a considerable span of time, such as ten minutes or more, become an actual working proposition and provide innumerable clues to the testee's working disposition, his resistance to fatigue and distraction, his cooperativeness and willingness to overcome obstacles, and his tendency to improve with practice rather than to relax his efforts. In short, such tests measure little in terms of working skill but much in terms of working personality.

Manual skill and personality. Electrical engineers who applied at a light and power company were required to perform a wire-bending task which was part of the test used by the company's personnel department to screen technicians. Experience had shown that, in the course of day-to-day operations, there always emerged situations which required the active interference of people who possessed both competence and manual skill. In such situations, the desk type of engineer would give advice but would not dirty his hands. The operating personnel, feeling that they knew better, would act independently, often with disastrous results. Since the introduction of the wire-bending task, this kind of mishap has been avoided.

The Various Approaches to Mental Capacity

Scholastic examinations. In areas of developing economy, the quest for the man who can be upgraded to the next functional level is more intense than in the relatively more static developed areas. As might be expected, tests of mental capacity are often called upon to indicate such men.

The first instrument considered for this purpose is generally the scholastic examination, also called achievement test. Members of management are frequently of the opinion that employees who do not have a certain command of the language, do not know how to deal with certain arithmetical problems, and are oblivious to some facts in the historical and geographical sphere are not worth the money they earn.

This, however, is quickly proved to be an incorrect assumption. Once the examinations get under way, shocking ignorance is discovered in highly appreciated employees throughout the ranks, while the most accomplished intellectually get notoriously low ratings from their supervisors. At this stage, even conservative management starts considering a more psychological approach to mental capacity.

Nonverbal tests. As far as areas of developing economy are concerned, there seem to be definite advantages in nonverbal testing of mental capacity. First, no translation of test material is necessary. Second, no divergences in cultural background between the countries of test origin and of test application need worry the examiner. Third, the educational level of the testee seems irrelevant. Nonverbal tests propose to go straight to the core of mental capacity, avoiding the passage through the verbal channel.

Among the nonverbal intelligence tests, Raven's Progressive Matrices are probably the best organized and therefore most widely accepted internationally.

To check on the validity for selection purposes, the author carried out an experiment involving 100 employees from six companies. Employees were taken in groups of ten and ranked by their supervisors, using man-to-man comparison on an overall effectiveness basis. The following correlations between test results and supervisors' ranking were obtained:

Financial and cost accountants	.23
General clerks	.31
Mechanical and electrical engineers	.42
Publicity designers	.38
Publicity account executives and copywriters	.43
Administrative assistants	.41
Salesmen (pharmaceuticals)	.11
Salesmen (textiles)	.33
Salesmen (typewriters)	.14
<u>Bank apprentices (minors)</u>	<u>.07</u>
Average	.283

While the overall validity is .28, an inspection of the partial quotients may give more of an insight into such tests than the mere acceptance of the final figure.

As a group, salesmen do badly. The examiner provided the additional information that most salesmen had trouble sitting through the test and keeping their eyes and minds on the paper. A few of the textile salesmen were exceptions due to the fact that they became interested in the matrices as designs. The degree of this interest obviously correlated with their job performance. The same interest was observed in account executives and writers of a publicity agency while some of the best designers in the same agency had difficulty in accepting the matrices and working within the frame of the test. General clerks worked well and steadily, while some of the most proficient among the accountants entangled themselves with numbering the elements contained in the matrices, thus losing valuable time necessary for the correct completion.

The author has seen the Raven and similar tests used, because of their easy availability and applicability, as sole selection instruments for all positions from mechanical apprentice to vice president of marketing. Such a procedure could ruin a company, as even the best correlation quotients above show. It will certainly ruin the reputation of the psychologists on the job.

Performance tests. While progressive matrices, figure sequences, hidden cubes, and similar items require visualization and the inference of some kind of serial principle, there is a group of tests where some kind of design or spatial relation is involved as well, but where the response consists in actual pencil performance. Such tests are, for example, the Porteus Maze and the widely used digit-symbol substitution. Graphology can also be considered within this context.

Are such tests not really sensory-motor coordination tests, with paper and pencil assuming the role of an apparatus? There are certain arguments against it. Factory workers who are at ease with industrial apparatus are disproportionately out of their depths when it comes to handling a pencil, while white-collar workers who have no problem with writing utensils are generally at a disadvantage in actual manual work. Paper and a pencil seem to constitute apparatus of a peculiar sort, intimately connected with education and a certain sensory-motor refinement and therefore more related to mental capacity than to manual skill.

To demonstrate the intricacies of paper-and-pencil performance testing, the author's experience with a digit-symbol substitution test may be briefly described here. This test was devised to measure mental effort, and it was thought that speed and accuracy in the task would be a measure of this factor, so important in many business functions. Comparison with work records, however, showed something completely different. High scores, i. e., speed and accuracy in this test, did not mean anything as far as work was concerned. Low scores, however,

did mean something. Slowness combined with accuracy turned out to be an indicator of inhibitedness. Slowness plus mistakes, on the other hand, coincided with laziness and indifference.

Some of the people classified as inhibited were successful in certain functions, primarily in accounting and control. But they were reported a failure in others, especially in sales. Some of the people eliminated from clerical positions for laziness worked out well in sales, especially when it was possible to put them on a commission basis. Others of the same group, test-wise and report-wise, could not be used in any function. This throws a sharp light on the complexities connected with performance testing. There is always some psychological content in a test score. However, its application to actual work involves many factors and requires many considerations.

Numerical tests. One of the traditionally accepted aspects of mental capacity is facility with numerical material. Here we have to distinguish between strictly numerical and numerical-operational tasks. An item of the first type would be the well-known clerical test which consists in the checking of repeating figures. A numerical operation is best exemplified by any arithmetical problem.

In areas of developing economy the exploitation of numerical facility leads to surprising results. Generally speaking, these areas are distinguished from others by a population which is relatively ineffective in dealing with numerical material. It may be suspected that behind this phenomenon there is less a lack of capacity, properly speaking, than a kind of emotional inhibition in relation to numbers. Dealing with figures is linked with objective-mindedness, and objective-mindedness seems to come with high-level social organization.

Numerical and numerical-operational tests are a poor measure of general mental capacity and of working effectiveness. Educational, occupational, emotional, and social factors are involved in determining a person's attitude toward numerical material and problems. There is a certain tradition of number blindness in developing societies, of which one may find signs even in teachers of arithmetic. Arithmetic operations are rarely understood; even the people who seem to know how to handle formulas do it by memory. Graduate economists incapable of deriving the rules for the addition and subtraction of natural fractions were a frequent occurrence in the author's testroom.

Of course, numerical items cannot be excluded from mental capacity tests altogether. In spite of the absence of significant correlation with any kind of job performance, very low and very high scores always have some kind of meaning, i. e., point to some kind of factor which is worth knowing about.

Verbal testing. Business in a developing economy, just as in any other economy, is mostly a matter of communication. This fact alone would be enough to justify an emphasis on verbal testing. So, in spite of the difficulties in obtaining verbal testing material which is geared to a developing economy, no testing program can be entirely devoid of verbal items.

Verbal test material cannot, of course, be translated without essentially changing its meaning. From developed to developing economy, there is a complete variation of mental climate. Not only are other words used, but also other aspects of life are stressed, other facts known, other reasons given, other convictions shared.

Once this obstacle has been overcome, i. e., once verbal tests have been devised on the spot, a further problem arises. In business communication, it is the spoken word which is most important, while in tests it is the written word that counts. Be it in sales talks, in supervisory orders, in a subordinate's question, in a vice president's address at a board meeting, in a discussion of marketing policy with a competitor, or in any other business situation, there is a need for improvisation, for split-second choice of terms, for convincingness, and for the mixing of conclusion and personal emphasis in a way which never applies to a test situation. This poses a deep and complex problem, the solution of which would contribute considerably to a better appreciation of tests as a measure of business success.

There is an attractive feature in verbal tests which, from a scientific viewpoint, however, is a disadvantage, namely, self-evidence. Inspecting a well-filled-out verbal test form, one is often impelled to say, "What an intelligent answer. It must be a bright fellow who wrote it. That is the kind of assistant I would like." In actual validation the picture is not quite so impressive. Cleverness on paper is not everything. However, valuable clues can be obtained from verbal testing if it is put to correct use.

A general word of warning may be in order. One fact has come to light again and again. The multiple choice type of verbal item, i. e., the most highly structured of all, has no validity whatsoever for any kind of industrial or commercial career. At least in areas of developing economy, the man who uses words as well as he can without worrying too much about little imprecisions seems to be the better businessman, the better industrial leader, the more natural mixer, and the more productive worker.

Personality

There is no need to repeat here the objections which have been raised by various international authorities against the so-called

personality test. From purely logical, statistical, and ethical points of view, the value of any known technique of standardized personality assessment has been questioned.

In an experiment carried out with 100 junior and senior executives, the author found that 83 percent significantly revised their previously given replies to a personality questionnaire after a clarifying thirty-minute interview with one of the three psychologists working on the job. The interviewers had no opportunity to see the testees' first replies and thus to suggest modifications. They were confined to discussing, in general terms, the problems of recalling past experience, describing one's own actions, classifying one's attitudes, comparing one's feelings with those of others, etc. These general discussions were enough to lead the majority of testees to a different understanding of the questionnaire and to a different interpretation of their own experiences and attitudes.

In free associations and sentence completion, the same group provided colorful material. However, it was found that the most telling clues were the result of recent intake (reading, conversation, movies, etc.) or of deliberate fabrication.

These results were similar to those obtained by a colleague using the Rorschach and Thematic Apperception Tests. Balanced people proved free to say what they wanted in response to verbal or pictorial stimulus. Whatever they did say had no deep root in their personality but was, in the majority of cases, sheer accident. Such evidence differentiates the so-called normal from the psychopath, who is driven by inner compulsion into determined actions and manifestations.

As a shortcut through all such psychological meanderings, U.S. consultants have taken to the made-to-measure method, whereby a candidate is expected to approach in his habits and manifestations, as closely as possible, a pattern of response established by the successful individuals within a given company. Whatever the scientific and practical merits of this method, in developing economies it has no application simply because there are no patterns of response. In an environment of widely varying features, men of widely varying personalities come to the top. Success, even within the same company or on equivalent assignments, cannot be reduced to a common human denominator. Conformity means little, and this excludes the tests which aim at it.

Withal, the assessment of personality continues to be one of the aspects of a complete testing program. The author shares the view of many of his colleagues to the effect that personality can be tested, but not directly. Personality traits which are important from the viewpoint of personnel selection, namely, the ones which apply to work, almost

invariably come to light during general testing. True, a test situation is never fully equivalent to a working situation. Tests require a quick mental adaptation to manifold tasks in succession, work demands a tolerance for routine; tests produce more tension, work implies more responsibility; in tests the individual has to rely on himself, in work he has to coordinate his efforts with those of others. Yet, in spite of such differentiations, attitudes shown by an individual while taking a test, such as concentration or restlessness, interest or indifference, diligence or laziness, cooperativeness or antagonism, self-reliance or dependence, honesty or shiftiness, hesitance, impetuosity, or the like, are proved attitudes of this individual. They are likely to recur, if not permanently, then occasionally, and an employer is well advised to take them into account along with the candidate's capacities.

Conclusion

One often hears that testing in areas of developing economy must be of a rudimentary character. The author hopes to have shown that, on the contrary, the need for testing in such areas is more intense and that its techniques should be more scrupulously applied than within industrialized societies, where a system of institutions, a network of communications, and a set of conventions assign a man to his niche almost automatically. In a developing society, abiding by established procedures is not enough. With the development of an economy, there is a development of manners, of mentalities, and of psychological methods. Thus, in the end, testing which accompanies this progress through its various stages may prove to be more versatile, more realistic, and more sensitive to the full range of human nature than it has been in areas of more advanced civilization.

Recommendations to management. In areas of developing economy psychological testing provides management with objective human data which otherwise would not be as available as in an economically developed society.

There are no insurmountable obstacles to psychological testing within developing economies. However, the mere application of "imported" test material, organized and validated in other areas, cannot be considered sound procedure. It may easily lead to erroneous human decisions which would then discredit psychological testing and related techniques altogether. In planning for the introduction of a testing program, some essential points of divergence between populations of developing and developed areas should be taken into account.

In a developing society the distribution of knowledge is less uniform than in developed ones. There is not only a coexistence of illiteracy with supreme educational achievement, but also a sharp variance in knowledge at identical levels of formal education. No

particular scholastic or general information can be taken for granted at any age or educational level. There are, for the psychological tester, no firm points of reference in the cultural scenery.

What, in view of this, is the relation between psychological tests and job performance? What, one might add, are the perspectives for other personnel techniques, such as performance rating and job evaluation?

No technician working in areas of developing economy can expect to find things in accordance with the textbook. This refers to personnel, production, marketing, accounting, and even general management. Yet the rise of modern industry rests, to a large extent, on the application of modern administrative techniques. Psychological testing is such a technique. Certainly there are difficulties in applying psychological measures and rules to a population which is in a process of transition from one form of existence to another. The evaluation of a new type of population meeting with a new set of occupational demands is not an assignment for somebody who has just learned how to apply a few standard tests. This is a job for a fully qualified professional with a maximum of methodological resources.

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TAXATION OF AGRICULTURAL LAND

Taxation is usually the principal source of government revenue. It must bear much of the burden of financing expanding government investment when economic development programs are undertaken. Taxation of agriculture, the largest economic sector in most low-income countries, has frequently been neglected to the detriment of the planning effort of the economy as a whole and even of agriculture itself. Haskell WALD said in 1962 ("Taxation of Agriculture in Latin America," Tax Policy, Vol. XXIX, No. 12, December 1962, and in Tax Policy on United States Investment in Latin America: Symposium, Princeton, Tax Institute of America, 1963),

"Experience shows that the penalties of too light taxation of agriculture are a stagnating farm sector, a financially starved public sector, and a generally retarded rate of economic growth in the country as a whole. The damaging consequences of Latin America's deficient agricultural tax policies are easy to pinpoint. Thanks to the prevailing tax system, Latin American capitalists find idle land — even land that is rich in soil qualities and favorably located — an inexpensive and relatively riskless form of investment. They largely shy away from equity investments in manufacturing because they can protect themselves by investing in properties which rise in value with inflation.

"A recent United Nations report on Progress in Land Reform concluded that the combination of unrealistically low assessments of agricultural land, low tax rates, and negligence in tax collection presents 'one of the most effective obstacles to the implementation of land reforms

programs.' The favored tax position of investment in land leads to land speculation and unrealistically high land values — both conducive to a land ownership pattern dominated by large holdings, often by individuals having no intention of cultivating the land up to its true productive potential. Because capital gains arising out of land speculation largely escape taxation, the distribution of income is made more unequal.

"The absence of adequate taxation of large landholdings also deprives the governments of a powerful policy tool to enforce land redistribution and better land use. Many big estates on fertile land in the valleys are used for extensive livestock raising, while the agricultural population is being pushed more and more onto the poorer land on the hillside. Heavier taxation of these large tracts that are being inefficiently employed would induce the owners either to cultivate them more profitably, rent them to others who would do so, or sell off some of their land. With this incentive effect of heavier taxation, it is possible to collect taxes on land without reducing the after-tax gains of landowners who cultivate their lands up to optimum efficiency.

"Finally, the most obvious consequence of all is the large revenue loss from the failure to tax agriculture. The fact that the sector's per capita income is desperately low is not in itself evidence that taxable capacity is lacking, because there is, in many countries, a heavy concentration of agricultural income in a small segment of the population."

Taxing agriculture, however, presents special problems. Inadequacy of the administrative network and presence of a large subsistence sector constitute difficulties. However, land and agricultural produce are difficult to conceal. In dealing with these special aspects, the three authors represented below reflect the near consensus that, under ideal conditions, a tax on potential output of agricultural land is superior to other forms of taxation, both in generating revenue and in providing incentives for agricultural development. After listing various possibilities for agricultural taxation, Haskell WALD advocates a tax based on potential income. For countries unable to administer this tax under present conditions, he proposes simpler alternatives. Analyzing the Indian situation, E. T. MATHEW proposes a land tax based on potential yield. M. A. QUEIROLO briefly describes how such a tax works in Uruguay.

TAXATION OF AGRICULTURE IN DEVELOPING ECONOMIES

Haskell P. Wald

[From "El Sistema Impositivo en la Agricultura de las Economías en Proceso de Desarrollo," El Trimestre Económico, Mexico; Volume XXVIII, Number 2, April-June 1961, pp. 247-263.]

[This paper is mainly based on ideas presented in the author's book, Taxation of Agricultural Land in Underdeveloped Economies, Cambridge (Mass.), Harvard University Press, 1959.]

These are excerpts from the article.

This paper discusses how a properly conceived and applied system of agricultural taxation offers a promising solution to some pressing fiscal problems of countries in early stages of economic development. The list of available fiscal instruments in the agricultural sector is a long one. Although land taxes often present strategic advantages over other methods of raising revenue, they have lost ground in recent years because of their structural rigidities and a general neglect of their potentialities. Specific suggestions are outlined to bring land taxes into step with modern principles of taxation, as a prelude to making these taxes more productive of revenue and more efficient as instruments of economic policy.

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Experience teaches that reforms of the type discussed are a laborious and painstaking task requiring the effort and skill of imaginative technicians and policy makers who are completely conversant with the economic and institutional setting in their respective countries and are able to judge the size of the administrative burden that can be successfully managed. No two countries can follow exactly the same path, but all can profit from the experience of others.

Types of Agricultural Taxes

In most underdeveloped countries, some form of levy tied to the ownership or use of land is the mainstay of the agricultural tax system. This type of tax is deeply rooted in fiscal experience almost everywhere in the world. Although this group of taxes has declined in revenue importance since World War II, except perhaps in countries where in-kind tax collections are made, the increased attention now focused upon agriculture's role in economic development has stimulated efforts to rebuild their fiscal productiveness. At the risk of oversimplification, the following description groups them into three major categories, depending on whether the taxes are assessed according to (1) land area, (2) a rental value concept of land value, or (3) an income concept.

Taxes on Land Area

Taxes assessed on the basis of land area are the most rudimentary of land taxes in structure and administration. The tax may be levied at a uniform rate according to land area or at a graduated rate according to the economic classification of the land. The latter method, followed in Jordan, for example, provides a crude blending of a simple area approach with a more advanced assessment according to the economic value of land.

Taxes on Land Value

The second category, consisting of taxes assessed according to a rental value concept, has the distinction of conceptual kinship with a celebrated doctrine, the Ricardian theory of economic rent. There are two basic types of rental value land taxes. Under the older taxes, the leading example being the "land revenue" in India and Pakistan, rental value is generally expressed as an amount purportedly equivalent to the annual value of the use of the land; under the newer ones, which include the property taxes common in Latin America, the assessed capital value is the tax base. In actual operation, the two methods yield different results, not simply because the quantitative expression of the tax base is almost always a figment of the assessors' imagination rather than a realistic value, but also for other fundamental reasons.

Because of the variety of prevailing rental arrangements and the notorious imperfections of rental markets for agricultural land, actual rents paid are of limited usefulness in assessing taxes according to annual rental value. Among the better taxes, the general approach is to start from an estimate of the income-producing capacity of each class of land, following presumably standardized land classification and assessment procedures, and then to separate out the portion representing rental value. Many appraisal formulae are tied to a fictional concept of a cultivator of average skill, who employs standard amounts of seed, fertilizer, and other production requisites. Each field need not be rated in detail, but its rental value may be fixed in relation to that of a standard producing unit.

The assessment practices are decidedly more lax for capital value than for annual rental value taxes. The information on the selling prices of land is not at all reliable, because the sales each year are relatively few in comparison with the number of fields to be appraised, and selling prices very often do not reflect true market valuations. Many countries with the capital-value type of tax have not had land surveys, not to mention scientific soil mapping and productivity surveys. Some of them continue to rely on self-assessment by landowners.

The selling price of land, except when it is influenced by subjective factors such as the prestige of land ownership, tends to reflect the discounted value of the anticipated rental value of land in its optimum economic use. In contrast, annual rental value is more likely to be determined with reference to current rather than anticipated income and with reference to present use even though a different land use might be more profitable. These differences can cause a striking disparity between the results of the two methods of assessment when applied to idle land bordering on an expanding urban area or to an agricultural area experiencing rapid economic development. Divergencies between the two assessment methods can also result because of differences between the treatment of improvements on the land.

Taxes on Income from Land

The third major category of land taxes employs an income concept to measure the tax base. Many of these taxes are similar in outward form to those already described, but they differ because of their more inclusive tax base. The income concept covers not only rental value (i. e., income attributable to the properties of the land) but also the return to labor and producers' capital.

Like the rental value concept, the income concept as applied in land taxation is susceptible of different interpretations. The secular tithe is assessed against the gross harvest or gross income. It does

not depend upon a land survey or land register because it is assessed by inspectors who visit the farms regularly at harvest time. Other forms of land taxes based on gross yield or gross income are assessed according to the rated productivity of land and do not vary with each year's actual harvest. Only a few land taxes are assessed against net income, and a presumptive value, as opposed to ascertained net income, is always used. Finally, there are the taxes on marketed produce. These are collected when produce is brought to the market for processing or sale to distributors, consumers, or exporters.

This list does not exhaust the different types of land taxes. Some countries have had special taxes on increases in land value, and special assessments, or "betterment levies," are sometimes levied to finance specific public improvements which yield localized benefits to land values. Absentee landowners may be subject to penalty taxation on their land holdings. Special taxes are also imposed on unimproved land in countries seeking to curb land speculation. Forests, mines, and oil and gas resources obviously require special treatment in land taxation.

Reform of Land Taxation

Most governments in underdeveloped countries are likely to attach considerable importance to the fact that land taxes can be applied broadly to all of agriculture and thus have a comparatively large revenue potential. Moreover, these taxes provide a means of breaking through the tax collection barriers of a substantial nonmonetized sector, widespread illiteracy, and low living standards. Land taxes also offer significant practical advantages because the land (or its produce) stands as security for the tax, the liable taxpayers usually are easily identified, and almost all countries can draw on their previous experience with these taxes to fashion a more effective levy to meet present-day needs. Finally, a strengthened land tax could afford desirable support to local government, which might brace a country's political health.

The existing land taxes, almost without exception, have major defects as instruments of development financing. Many Latin American countries, for example, do not even have satisfactory land maps and their records of land ownership and field boundaries are inaccurate and incomplete. Such conditions not only prevent equitable tax assessments and more productive tax yields, but they also are an impediment to improvement of many important phases of land administration (e. g., controlling tenancy conditions, surveying land use, planning agrarian reforms) and to the establishment of a system of land-based credit.

The scope for improvement of the basic tools of assessment probably is considerable in almost every underdeveloped country.

Another urgently needed reform to bring the taxes into line with modern requirements is to make the tax yield more responsive to price and production changes. Such responsiveness is generally absent because of the long interval between assessment periods and because of a disinclination to make frequent changes in tax rates. Of course, assessments that are not kept current can also be a source of flagrant inequities among taxpayers. The superficially plausible notion that rate changes can be used to compensate for assessment values that are behind the times ignores the fact that the impact of inflation or development on land values and income is not likely to be spread evenly over the agricultural sector. The assessments must first be equalized.

What is needed is a scheme of annual revisions by means of an easily applied formula. Although precise adjustments would be impractical, reasonably satisfactory results could be obtained by employing price and production indices measuring average changes for the principal commodities in different agricultural regions. To avoid too frequent revisions of the tax, small changes in the relevant indices could be passed over. A plan of this sort would still permit above-average returns on individual farms to go tax free and below-average returns to be relatively over-taxed (i. e., the marginal tax rate, practically speaking, would be zero for the individual farmer). This structural feature of most existing land taxes offers maximum incentive for the adoption of better techniques of cultivation.

Rationalization of the Land Tax Base

The remaining problem area of land taxation is one in which satisfactory solutions may prove hardest to reach within the limits set by administrative and institutional factors. Apart from improvements in the methods of assessment, the tax base itself must be reformed in concept, to bring it into closer conformity to individual taxpaying capacity.

The ideal plan requires ratings according to presumptive net income. To achieve this, two types of soil classifications are necessary: (1) in terms of inherent soil characteristics (i. e., scientific soil mapping to determine the "soil profile"); and (2) in terms of economic use capabilities, as determined by potential water supply, climate, exposure to sunshine, topography, availability of farm implements, etc. Each delineated land area should be assigned a rating in accordance with its potential net income under average growing conditions and proper management, with appropriate allowances for distance from trading centers and other market factors. The use of yardstick farms, as found in parts of Central Europe, can be a valuable aid in such a rating process.

The above approach is suggested as a target on which the underdeveloped countries, particularly those in which the typical farmer is an owner-cultivator, should set their sights, provided the preconditions for

heavy reliance upon land taxation are present. The requirements for its successful implementation in all its phases are doubtless prohibitive for many countries; it is certainly not within the early reach of countries which have not had previous experience with cadastral surveys.

Countries which find that the plan just outlined is on too grand a scale for them to adopt should turn their attention to alternative methods which might serve as stepping stones toward the ideal plan. Ratings based on "normal" gross yield have the advantage of simplicity, although they do not obviate the need for accurate land records and at least a rudimentary land classification system which could be used in conjunction with unit yield tables. If the tax were based on a varying fraction of the rated gross produce — in order to allow for estimated differences in the income earning potential of different fields after production and marketing costs — the result would be in keeping with the principle of taxing according to presumptive net income. It would not be a major undertaking for countries having land taxes assessed according to annual rental value to convert to the standard here proposed, because they may already possess much of the necessary information on soil classification and production expenses. On the other hand, countries which rely primarily on information on the selling price of land, or on self-assessment by landowners, must put their major initial effort into land mapping and land classification surveys in order to obtain a more realistic estimate of market value. Perhaps they would do better if they shifted to a classified-rate area tax. This would involve a simplified classification of land by easily recognizable criteria bearing on productivity and location, with a graduated tax rate schedule to reflect, in a crude way, the relative net income potential of each standard class of land. Such a system would assure far better results than are possible with the loosely administered property taxes in many countries.

Marketing taxes may be the only feasible means of collecting large revenues from agriculture in the countries where farming regions have not been surveyed and where there are no established ownership and tenure rights in land. Such taxes, however, tend to discourage the movement of produce to the cities and they may be damaging to agricultural output because of their effects on marginal producers.

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SOME OBSERVATIONS ON
AGRICULTURAL TAXATION FOR
ECONOMIC DEVELOPMENT IN INDIA

E. T. Mathew

[From "Taxation for Economic Development:
Some Observations on Agricultural Taxation
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This is a
reprint of
most of
the paper.

Insufficient capital is one of the crucial factors resulting in underdevelopment. In the absence of adequate voluntary saving, taxation, which represents forced saving, is the most effective, and perhaps the only, alternative available to the governments of the developing countries. The agricultural sector, being the largest segment of the Indian economy, must bear a due share of the cost of economic development. It may be further noted that, in many underdeveloped economies, it is often not the insufficiency of savings, but the behaviour of savings which lies at the root of underdevelopment. Referring to the problem of inadequate capital encountered by the leaders of the Industrial Revolution in England in its initial stages, Postan comments that,

"It can, indeed, be doubted whether there had ever been a period in English history when the accumulated wealth of landlords and merchants, of religious and educational institutions would have been inadequate for this purpose. What was

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inadequate was not the quantity of stored-up wealth, but its behaviour.... Much of the savings was hoarded.... In spite of the fact that rural England had long been familiar with the new financial methods, surprisingly little of her wealth found its way into the new industrial enterprises, where the shortage of capital must have been acute, and the risks, even as they might appear to the inventor, not immediate."

As with England in the early period of the Industrial Revolution, so with India today this statement is largely true. It is estimated that hoards of gold in India amount to about Rs. 40 billion at current domestic prices and Rs. 18 billion at the international prices. Much of these hoards of gold is concentrated in the rural sector. Such conditions as these strengthen the case for increased taxation of the rural sector.

Agricultural taxation plays a two-fold role in the process of economic development. First, it provides the government with financial resources for carrying out developmental expenditures. Second, it supplies the rest of the economy with a larger food surplus. A marginal increase in agricultural productivity need not necessarily result in increased marketed surplus, because the farmers may retain for their own consumption the entire increment in output. This is especially true of underdeveloped economies where the existing levels of consumption are pitifully low. Thus, Kaldor argues that the taxation of agriculture "has a critical role to play in the acceleration of economic development since it is only the imposition of compulsory levies on the agricultural sector itself which enlarges the supply of 'savings' for economic development."

Agricultural Taxation in India

Land revenue. The greatest defect of the land revenue system is its inflexibility. Practically the same rates have remained in force for decades, although agricultural prices and incomes have greatly risen. Though originally conceived as a tax related to current income, it has been reduced to the status of a crude acreage tax. As Ursula Hicks rightly points out, "Exactly as in the case of the flat-sum poll tax, a crude acreage tax will always be poor, both in yield and equity." If the land revenue could be made more responsive to variations in price and output, the outcome would be beneficial not only from the point of view of equity, but also from the point of view of economic effects. To quote Haskell P. Wald, "Increased responsiveness will ordinarily increase the equitableness of the tax, but its main advantage lies in economic effects. A flexible tax contributes to the goal of economic stability and it also serves the important function of diverting part of the increase in income, as a country's development programme bears fruit, to the financing of new development projects."

In the case of the land revenue, the tax base is not clearly defined and is not uniform as between different states and even between different parts of the same state. Any reform of land revenue should include the rationalization of the tax base. As far as incentive provisions are concerned, they are almost completely lacking in the land revenue system. If they exist at all in some measure they are, in a way, lopsided. For example, while partial or full remission of land revenue is allowed when crops are damaged due to natural calamities, no credits are allowed for improvements on land or other useful investments, and no penalty imposed for improper use of land. Further, for all practical purposes, the land revenue is a proportional tax based on the size of the holding. Finally, though land revenue is a tax on land, tenant cultivators do not have to pay land revenue. This is due to the inappropriate tax base. It is paradoxical that, under the Indian system of agricultural taxation, the subsistence owner-cultivator has to pay land revenue whereas the tenant farmer, whose income from farming is often higher than that of the former, does not have to pay the same.

Agricultural income tax. There is no economic rationale for this duplication in the system of agricultural taxation. As a financial expediency, the agricultural income tax has been a gross failure in most states. The most appropriate step would have been to reshape and revitalize the land revenue as a flexible fiscal tool. Since the exemption limit is at least Rs. 3000, the vast majority of the agriculturists are left out. Even among those farmers who ought to be paying the tax, the degree of noncompliance is substantial. Kaldor estimated that in 1953-54, out of a total assessable income of Rs. 3,350 million, the income actually assessed to agricultural income tax was only Rs. 500 million. We can thus say that the degree of compliance is only about 17 percent of the potential.

Proposal for Potential Output Taxation

How should agricultural taxation be suitably modified in the context of our developing economy? A few broad suggestions are given below.

The potential income from each holding, under average conditions of production, should be the tax base of land revenue. The potential output of each holding should be estimated on the basis of a soil classification according to productive capacity. It may be expressed as a proportion of the average per acre output of the region concerned. The average potential output per acre for each region in the nation should be updated occasionally to allow for changes in the drainage situation, sedimentation, erosion and land improvement progress. Once these steps are adopted, annual revision of the assessment on each holding could be made on the basis of changes in the agricultural price level in each region.

It may be noted that a land tax based on potential output has a certain built-in incentive. The inefficient farmer whose production is less than the average for the region and for the type of land concerned would be penalized, whereas the efficient farmer would be correspondingly encouraged.

The appropriate marginal rates of tax should be applied to the potential income from the entire land holdings of the household, whether it is located in one block or scattered in different places. A basic minimum exemption should be allowed in all cases irrespective of the size of the household or the status of the farmer. This exemption limit should be fixed at a certain level of income and not at a certain size of holding.

Land revenue rates should be made progressive with increases in income. The rates should be comparable with those for nonagricultural incomes as required under the personal income tax.

As a measure to promote economic development, certain approved categories of saving and investment may be given credit in calculating the taxable income of the farm household. For example, saving in the form of life insurance policies, government bonds, postal savings, bank deposits, provident funds, etc., could be exempted. Similarly, investment in the form of tractors, irrigation equipment, other farm equipment, farm buildings, etc., could be exempted.

With the implementation of such a land revenue reform, a separate agricultural income tax would have no place in the tax system of India. As a matter of fact, the new land revenue will be, in a meaningful sense, an income tax, the salient features of an income tax being incorporated into the land tax. The new land tax, as we have seen, will be based on the potential income from land under average conditions and these incomes will be taxed at rates comparable to those applicable to nonagricultural incomes under the personal income tax.

TAXING THE POTENTIAL YIELD OF LAND: A URUGUAYAN EXAMPLE

M. A. Queirolo

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These are
excerpts
from the
article.

Since it came into force on July 1, 1961, the tax on incomes in Uruguay has divided incomes into six categories: those from real estate, other property, industry and commerce, agriculture, and personal, and professional income. As a general rule, it is the actual income of the taxpayer which is burdened, but an exception is made in the case of agricultural incomes. There, the tax is raised on the potential income of a farm. Three main reasons have been advanced to explain this exception. In the first place, it makes things easier for farmers who do not have the accounting resources to work out their real incomes. More importantly, it rewards those farmers whose production is above average, and it is in the interests of a country whose exports come so largely from agriculture to offer such a reward. The theory is that it would be unfair, or unwise, to tax more heavily those who are doing most to earn the country foreign exchange. This system of taxation also penalises those farmers who do not manage to produce as much from their land as it ought, with proper effort, to yield.

It may be of interest to set out the details of this system of taxation as it is applied in Uruguay, though

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the idea itself is very much older and has been employed in Italy since the eighteenth century. The law in question defines agricultural income as that which is derived from the joint use of labour and capital in agricultural occupations, whatever the legal basis on which the land is held. It is considered that the income has been wholly distributed or received by the owner or partners at the end of the fiscal year, whether or not there has been an actual distribution of profits.

The law covers all forms of agricultural activity, right down to bee-keeping, but it does specifically exclude any form of processing of agricultural products. When the same establishment is carrying out a mixture of agricultural and other forms of activity, the overall income has to be broken down so that it may be seen which part of it is to be taxed in accordance with the law under discussion.

Methods of Assessing Potential Income

The law lays down certain procedures for establishing the potential income of each form of agricultural activity. Each year, there is fixed a basic potential yield in accordance with the average value of land. It is computed as the money value of 4 kilogrammes of wool and 20 kilogrammes of live cattle. This money value is fixed each year by the Government on the basis of average sale prices in the second half of the year.

This basic potential yield is applied to all rural properties whose assessed value is not greater than 80 pesos a hectare. Where the assessed value is greater than this, the basic potential yield is increased proportionately. For the purposes of the tax, the income of an agricultural property is arrived at by multiplying the potential income per hectare by the total number of hectares in the property, less those which are declared to be naturally unproductive, those devoted to forestry, and those which are devoted to nonagricultural purposes. The assumed or potential income arrived at in this way is used for tax purposes, whether or not the property is in fact being farmed.

The law allows certain deductions to be made from the gross potential income which has been calculated in the manner outlined above. One of these is interest on loans to finance either the purchase of the property or its subsequent working. It is also possible to deduct losses which are occasioned by natural disasters, to the extent to which they are not covered by insurance, and always provided that the current rulings on the control and eradication of pests and epidemics have been observed. Thirty percent of the gross income may also be deducted as a form of investment allowance; when the taxpayer concerned is not the owner of the property, this deduction may be increased to 50 percent. This is also the case with farms which are worked by sharecroppers who do not own it collectively. Another important reduction

which may be made from the gross potential income of a farm is the amount of money spent on a number of investments, among them agricultural machinery.

Three percent of the total area of a property may be counted automatically as unproductive. This concept covers areas which are impossible to use for either arable farming or livestock all the year round, but excludes areas which can be used in certain seasons. When a landowner wishes to claim that more than 3 percent of his land is necessarily unproductive — because, for instance, it is devoted to forestry or nonagricultural activities — he must produce evidence to back up his claim. Natural woods are considered in any case to be unproductive land.

There are some drawbacks to the system, the gravest of them perhaps being that the potential income of a farm is based on a Treasury assessment, made in the first place to establish what should be paid under a municipal property tax, and it is far from certain that there is uniformity of criterion. It may well be that farms whose productivity is similar will have been assessed differently simply because they lie in different municipalities.

At a time when agrarian reform is a subject of discussion, both among planning technicians and those people who are directly concerned, this sort of tax could well be a method by which land is transferred peacefully into the hands of those who can make it yield most.

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A BOOK ON PLANNING EXPERIENCE

Albert Waterston, Development Planning: Lessons of Experience, Baltimore (Md.), The Johns Hopkins Press, 1965, US\$10.75, pp. 720.

In addition to his own extensive experience in the comparative study of development planning, Albert Waterston has drawn on the immense resources of the International Bank for Reconstruction and Development and the help of numerous assistants during the seven years that this volume has been in preparation. The wealth of concrete examples buttressing a broad range of concerns is certainly the book's most striking feature. The result is a kind of encyclopedia of planning experience certain to be consulted by those faced with economic planning problems for some time to come.

All kinds of planning in all kinds of countries are treated. Perhaps the most useful section is devoted to analysis of implementation. Against the background of a quite complete study of 55 "core" countries and an examination of all remaining ones, Waterston discusses problems raised by data limitations, inadequate budgetary controls, and poor accounting. Conclusions concerning the kinds of governmental administrations and central planning agencies most effective in plan implementation emerge from a careful analysis of planning experience in many countries. Perhaps it is because of his awareness of these essentially administrative obstacles to planning that the author is less enthusiastic than some economists about comprehensive planning, and that he warns of the pitfalls of undertaking comprehensive planning "prematurely" in too early a stage of development.

The book has a useful series of appendices which include organizational charts of planning agencies in several countries, a bibliography of plans, and an address list of planning agencies.

Readers expecting a prescription for development planning will be disappointed. Instead, they will find in this compendium a wealth of experience to which they can relate planning in their own countries at their own stage of social and economic growth.

